

The Afrotropical idiocerine leafhoppers (Homoptera: Cicadellidae)

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Contents

Synopsis.....	211
Introduction	212
Material and methods.....	213
Abbreviations of depositories	217
Acknowledgements	218
Check-list of the Afrotropical Idiocerinae	218
Idiocerinae Baker.....	219
Key to the Afrotropical genera of Idiocerinae.....	219
<i>Kopamerra</i> gen. n.....	220
Key to the species of <i>Kopamerra</i>	221
<i>Rotifunkia</i> China.....	224
Key to the species of <i>Rotifunkia</i> (males).....	224
<i>Chunra</i> Distant.....	225
Key to the Afrotropical species of <i>Chunra</i>	225
<i>Hensleyella</i> gen. n.....	227
<i>Maldonadora</i> gen. n.....	228
<i>Yachandra</i> gen. n.....	230
Key to the species of <i>Yachandra</i>	231
<i>Theronopus</i> gen. n.....	232
Key to the species of <i>Theronopus</i> (males).....	233
<i>Pandacerus</i> gen. n.....	240
Key to the species of <i>Pandacerus</i>	241
<i>Pretioscopus</i> gen. n.....	243
Key to the species of <i>Pretioscopus</i>	243
<i>Grootonia</i> gen. n.....	248
Key to the species of <i>Grootonia</i>	248
<i>Cafixia</i> gen. n.....	249
<i>Rhusopus</i> gen. n.....	250
Key to the species of <i>Rhusopus</i>	251
<i>Quartauropa</i> gen. n.....	252
<i>Remoya</i> gen. n.....	254
Nomen dubium.....	254
References	255
Index.....	256

Synopsis

The subfamily Idiocerinae is described and a key is provided to the 13 genera (11 new) occurring in the Afrotropical region. Keys and descriptions, or references to descriptions, are given for the 63 species (18 new) from the region. One new genus from Aldabra is described. A check-list is provided summarizing the nomenclatural changes, which include one new specific synonymy and 41 new combinations. The characters used to separate taxa are discussed and the dissimilarity values between pairs of genera are tabulated.

Introduction

The Idiocerinae is a moderately large group of arboreal leafhoppers, containing approximately 400 known species. Members of the subfamily range in size from 3–10 mm and are recognizable by their short, broad heads, giving them a narrow, wedge-shaped appearance. The group is cosmopolitan, but the greatest number of species has been recorded from the Holarctic region (approximately 200 species) and Australia (105 species). Other regions, except the Afrotropical region, remain virtually unworked, apart from biological studies on some species of economic importance in the Oriental region (see below).

At the generic level, revisionary works on the Idiocerinae are available for the Palaearctic region (Dlabola, 1974), the Nearctic region (excepting the Sonoran subregion) (Hamilton, 1980) and Australia (Webb, 1983). Dlabola (1974) placed the Palaearctic idiocerine species into 14 genera (six new), and Ossiannilsson (1981) added a further two new genera. The Nearctic fauna was found by Hamilton (1980) to be composed of nine of the genera recognized by Dlabola, but as many intermediates were found between these genera, Hamilton recognized only three in the Nearctic region. The Australian fauna (Webb, 1983) includes 27 idiocerine genera, the majority of which are endemic. Compared to the above faunas the idiocerine fauna of the Afrotropical region (13 genera and 63 species) is fairly small, although there are doubtless many more taxa still to be described, including two new genera represented in the BMNH but not included here (see below). The majority of species from this region were treated previously (Webb, 1975; 1976) and tentatively placed in species-groups of known genera until further material became available for study. The objective of the present work is to reassess these species, together with much new material, and apply generic concepts similar to those used in the papers referred to above.

The characters used in this study have mainly confirmed previous groupings of species, although these are here treated as separate genera. By using these characters for species in other areas, particularly for the Nearctic species of *Idiocerus* Lewis and the Oriental species of *Idioscopus* Baker, it should be possible to devise a more meaningful classification for the faunas of those areas. The classification for the Nearctic fauna proposed by Hamilton (1980), who used fewer characters, may suggest too close a relationship with the Palaearctic fauna (see 'External characters', p. 214). A few species are common to both the Nearctic and Palaearctic regions. Moreover, the species of Hamilton's *Idiocerus productus*-group bear a striking resemblance to the Palaearctic species treated in *Metidiocerus* by Ossiannilsson (1981) although Hamilton placed these in his *I. vittifrons*-group.

The Afrotropical fauna consists of 13 genera and 63 species which are all endemic except for *Kopamerra haupti* (also found in Madagascar) and *Chunra* (also found in Indonesia and Australia). A single genus and species endemic to Aldabra (off the east coast of Africa) is included below as the cicadellid fauna of this area is closely related to that of Africa (Webb, 1980: 829). Two new genera from central Africa are not included as they are represented only by females in the BMNH. These show two unusual features for the African region (see 'External characters', p. 213). The Idiocerinae of Madagascar described by Freytag & Knight (1966) require a similar revisionary treatment to that undertaken here. The monobasic genus *Strongyloomma* Spinola, with type-species *caffra* Spinola, was incorrectly recorded by Spinola from South Africa. Although the type of *caffra* (MRSN) is without data a single specimen in the BMNH shows this genus and species to be from South America.

In the Holarctic region idiocerines feed and breed on a wide variety of trees, particularly Salicaceae, and on some shrubs (Hamilton, 1980; Le Quesne, 1965), and they have been recorded in Australia from *Eucalyptus* and *Melaleuca* (Myrtaceae) (Webb, 1983). In India they are found as pests on Mango (*Mangifera indica*) (Anacardiaceae), and have been recorded on *Semecarpus anacardium* (Anacardiaceae) and *Syzygium cumini* (Myrtaceae) (Viraktamath, 1973, 1976). In Africa the following hosts have been recorded: *Rhus* species (Anacardiaceae), *Haplocoelum foliolosum* (Sapindaceae), *Mimusops zeyheri* (Sapotaceae), *Diospyros mespiliiformis* (Ebenaceae), *Colophospermum mopane* (Leguminosae), and *Commiphora africana* (Burseraceae).

In common with other cicadellids, idiocerines can affect the growth of plants if they occur in sufficient numbers, by sucking nutrients and chlorophyll from foliage and by damaging stems during egg laying. This has been observed mainly for the economically important species of Idiocerinae, which occur on Mango in the Oriental region. In addition, by excreting honey dew, these insects are responsible for the large scale growth of sooty mould on Mango (Serrano & Palo, 1933; Ahmed *et al.*, 1981). Damage to *Pistacia vera* by *Sulamicerus stali* (Fieber) in Turkey, resulting in fruit loss (up to 30–40 per cent in drought years), is caused by direct feeding and by the excretion of honey dew (Lodos & Kalkandelen, 1982). One member of the subfamily, *Idiocerus populi* (Linnaeus), has been recorded as a vector of an unknown organism that produces witches' broom disease on Poplar (Meer, 1981).

Materials and methods

Explanatory comments on the format adopted

In the absence of any subdivisions of the subfamily the genera are arranged into two 'convenience' groups based on the number of spines at the apex of the hind femur (2+0 or 2+1) (Webb, 1975; 1976).

For each generic and specific entry a description or reference to a description is given. Full collecting data are given only for type-material of new species.

Corresponding parts of different species are not necessarily figured to the same scale. In the male genitalia of any one species the same scale is used for the aedeagus and complete style.

Unless otherwise stated, structures are figured in the following aspects: head and thorax (dorsal); ovipositor valvulae, male genital capsule, male pygophore, subgenital plate and style (left lateral); aedeagus (left lateral, Fig. 12 or posterior, Fig. 13).

Examination of the male and female genitalia

The male and female genitalia were examined in glycerine, having previously been macerated in warmed KOH and thoroughly washed in distilled water. The second valvulae of the ovipositor were examined after separation from the first valvulae; this was accomplished by pushing the second valvulae posteriorly while holding the bases of the first valvulae. To avoid dislodging the third valvulae during this operation it was often necessary to break the ramal bases of the second valvulae prior to pushing.

Taxonomic characters used

The taxonomic characters used are similar to those employed in previous work (Webb, 1983 and Maldonado Capriles, 1977). The characters used to separate genera are listed below together with a table giving each character state for each of the African genera. Of the 46 characters used 28 are external, 17 are of the male or female genitalia and one is a character of the male basal abdominal apodemes. No new characters were found.

External characters. Of the 28 external characters used to separate genera, 16 are of the head, three the thorax, four the forewings and five the hind legs. Two characters, the concave lateral margins of the clypellus and the flattened hind tibia, are present in all the African genera and are therefore omitted from the list of generic characters below. Two other external characters omitted from this list are the width of the clypellus and the size of the lora. In all the genera described here the clypellus is narrow and the lora are large. However, in the two undescribed African genera referred to in the introduction, one has the clypellus broad, the other has the lora small.

Colour pattern. This is a very useful character by which to separate and group species and, to a less extent, genera. To separate the latter I have used two characters, including the presence or absence of a brown spot on the vertex near to each eye (character 2 below). Four Nearctic species were shown by Hamilton (1980) to be sexually dimorphic in this character, but in the African species this dimorphism occurs only in *Yachandra projecta*. Both states of this character are found in *Pandacerus* and *Pretioscopus*. One other character used to separate *Chunra* and

Hensleyella are the brown markings on the subcostal area of the forewing. Distinctive colour patterns are found in several species and species-groups, e.g. the orange transverse bands on the head and pronotum in the *Kopamerra haupti*-group and the presence or absence of a pair of spots on the head and pronotum and the colour of the first valvulae in *Pretioscopus*.

Other external characters. Apart from colour most other external characters are mainly of generic importance. The broad lora in *Theronopus* are unique for the subfamily and the following characters are unique for genera in the region: the indistinct laterofrontal sutures in *Quartauroopa*, the distinctly incurved laterofrontal sutures and long rostrum in *Chunra* and the transversely striate pronotum in *Cafixia*. In *Rotifunkia* and *Hensleyella* the vertex is distinctly visible above the eye in facial aspect (Fig. 39), resulting from the very short vertex and small eyes in these genera. The number of spines at the apex of the hind femur (2+0 or 2+1) (character 24) is constant within each genus except *Theronopus* (see remarks under that genus). The previously confusing situation within the Palaearctic genus *Idiocerus*, where both 2+0 and 2+1 spines were present (Webb, 1976: 292), has now been resolved. In 1974 Dlabola erected three Palaearctic genera (*Viridicerus*, *Taeniocerus* and *Sulamicerus*) for five species of *Idiocerus*; these species all have 2+1 spines which confirms Dlabola's decision to separate them from *Idiocerus*, which has 2+0 spines. Genera with 2+0 spines and those with 2+1 spines are found in approximately equal numbers in the Old World but all genera from the New World have 2+0 spines (except *Strongylomma* Spinola which has a small ventral rather than dorsal subapical spine). The Nearctic species *Idiocerus couleanus* Ball & Parker (with 2+0 spines) was placed in the *I. ustulatus*-group by Hamilton (1980) but probably does not belong here as *ustulatus* Mulsant & Rey belongs to *Viridicerus* with 2+1 spines. The number of spines in rows 1–3 of the hind tibia (characters 26–28) are listed under three character states for each row. These characters are used despite considerable overlap in some genera, because a few genera have consistently high or low numbers of spines present. Reference to the distal spines of row 2, with basal process strong, weak or absent (character 25), does not include the spine in the apical pecten opposite this row, where the basal process is always present.

Male basal abdominal apodemes. The male basal abdominal apodemes have not been used to distinguish species, but in *Kopamerra* and *Rotifunkia* the dorsal pair of apodemes are strut-like rather than lobe-like as in other *Idiocerinae*.

Male genitalia. Characters of both generic and specific importance are found in all the principal structures of the male genitalia. Thirteen characters, listed below, are used to separate genera. The two dorsal keels of the connective in *Yachandra* are unique for the subfamily, and the following characters are unique to the region: processes of the basal apodeme of the aedeagus in *Hensleyella*, the produced dorsoposterior corners of the pygophore in *Yachandra*, the spine-like marginal setae of the subgenital plate in *Rotifunkia*, the absence of dorsal marginal setae in *Quartauroopa*, and the apically expanded styles in *Pandacerus*. The basal apodeme of the aedeagus is present in all genera from the region in contrast to some of those from the Oriental and Australian regions where it is absent.

Female genitalia. In the female genitalia characters of generic and specific importance are found mainly on the second valvulae of the ovipositor (see generic characters 44–46). The length of the dorsal sclerotized region and the toothed portion of the second valvulae are of specific importance in several genera. The dorsal sclerotized region is situated basally at the dorsal margin of the valvulae except in most species of *Pretioscopus* where it is situated below the dorsal margin. Its position corresponds to the fused region of the paired valvulae, and its posterior limit at the dorsal margin is usually near the first dorsal tooth; in some genera separated from this tooth by a dorsal hyaline region (Fig. 113). The length of the expanded apex of the first valvulae is used to separate species of *Pretioscopus* (Figs 118, 119) and the dorsally imbricate, rather than transversely striate, third valvulae is found only in *Chunra* and one other genus from NE. Australia (*Candulifera* Webb).

Below is a list of 46 characters and their states which have been used to separate genera and to construct Table 1. For ease of reference in Table 1 the letter 'B' is used for the most commonly

found state of a given character among the 14 genera. In consequence some character states differ in the sequence of listing, e.g. (A) strong; (B) absent; (C) weak for character 25 and (A) absent; (B) distal; (C) basal for character 41. Five characters for *Hensleyella* (16 and 43–46) were not available for study (indicated by (?)) in Table 1) and are therefore not included in the dissimilarity values for this genus in Table 2.

1. Head width. Head width divided by pronotum width (A) 1.00–1.09; (B) 1.10–1.19; (C) 1.20–1.27.
2. Presence of spot on vertex near each eye. Spots (A) present; (B) absent.
3. Length of vertex. Medial length of vertex (A) greater than; (B) equal to; (C) less than length of vertex next to eyes.
4. Width of vertex. Width of vertex divided by medial length of vertex (A) 7.5–8.5; (B) 3.5–8.0.
5. Visibility of vertex in facial aspect. Vertex (A) visible; (B) not visible above eye.
6. Microsculpture of vertex. Vertex (A) transversely striate; (B) shagreened.
7. Width of face. Face width (A) equalling or less than face length; (B) greater than face length.
8. Spine-like setae on facial margin close to eye. (A) one or two setae present; (B) setae absent.
9. Size of eye. Length of inner margin of eye divided by perpendicular length of face below eye (A) 0.62–0.77; (B) 0.83–1.10.
10. Position of ocelli. Interocellar width divided by ocellular width (A) 1.0–1.7; (B) 2.0–2.7; (C) 3.3–3.5.
11. Presence and length of laterofrontal sutures. Sutures (A) reaching ocelli; (B) not reaching ocelli; (C) absent.
12. Curvature of laterofrontal sutures. Sutures (A) distinctly incurved; (B) not distinctly incurved or absent.
13. Apical expansion of male antennae. Antennae (A) expanded; (B) not expanded apically.
14. Width of lora. Lora (A) extending to facial margin throughout length; (B) separated from facial margin throughout; (C) extending to facial margin over ventral one-fifth to one-third.
15. Shape of clypellus. Clypellus (A) with greatest width at base; (B) with greatest width at apex; (C) equal in width at base and apex.
16. Length of rostrum. Rostrum extended (A) beyond hind coxae; (B) to mid or hind coxae.
17. Pronotal microsculpture. Pronotum (A) transversely striate; (B) shagreened.
18. Length of scutellum. Length of scutellum (A) greater than; (B) less than or equalling combined length of pronotum and vertex.
19. Scutellar microsculpture. Scutellum (A) rugose; (B) shagreened.
20. Colour pattern of forewing. Subcotal region (A) with; (B) without brown spots.
21. Closure of first subapical cell of forewing. First subapical cell (A) closed; (B) open.
22. Closure of second subapical cell of forewing. Second subapical cell (A) open; (B) closed.
23. Presence of third subapical cell of forewing. Third subapical cell (A) present; (B) absent.
24. Setal formula at apex of hind femur. Setal formula (A) 2+0; (B) 2+1.
25. Presence and size of basal process of distal spines of hind tibia. Basal processes (A) strong; (B) absent; (C) weak.
26. Number of spines in row 1 of hind tibia. Number of spines (A) 3–9; (B) 11–19; (C) 20–26.
27. Number of spines in row 2 of hind tibia. Number of spines (A) 3–5; (B) 6–7; (C) 8–9.
28. Number of spines in row 3 of hind tibia. Number of spines (A) 3–5; (B) 6–9; (C) 10–13.
29. Shape of male basal dorsal abdominal apodemes. Apodemes (A) strut-like; (B) lobe-like.
30. Shape of dorsoposterior angles of pygophore. Angles (A) produced; (B) not produced.
31. Presence of a small protuberance on posterior margins of male pygophore. Protuberance (A) present; (B) absent.
32. Presence and length of dorsolateral fold of male pygophore. Dorsolateral fold (A) long; (B) short or absent.
33. Presence of anterior transverse region of male Xth segment. Transverse region (A) present; (B) absent.
34. Attachment of male Xth segment to pygophore. Xth segment (A) loosely (membranously) attached to pygophore; (B) solidly attached to pygophore (with a suture between); (C) fused to pygophore (without a suture between).
35. Presence and length of ventral arms of male Xth segment. Ventral arms (A) long; (B) short or absent.
36. Form of marginal setae of subgenital plates. Setae (A) spine-like; (B) fine.
37. Presence of dorsal marginal setae of subgenital plates. Dorsal setae (A) absent; (B) present.
38. Form of apical process of style. Apical process (A) expanded (Fig. 110); (B) tapered or foot-like (Fig. 86).

Table 1 Distribution of character states for 46 characters of African Idiocerinae genera. The letters represent the character states of the numbered characters on the left which are detailed in the text.

CHARACTERS	GENERA														
	<i>Kopameria</i>	<i>Rotjunkiia</i>	<i>Chunra</i>	<i>Hensleyella</i>	<i>Maldonadora</i>	<i>Yachandra</i>	<i>Theronopus</i>	<i>Pandacerus</i>	<i>Pretioscopus</i>	<i>Grootonia</i>	<i>Cafixia</i>	<i>Rhusopus</i>	<i>Quartaropa</i>	<i>Remoya</i>	
1	B	AB	AB	A	C	BC	BC	BC	B	B	C	C	B	B	
2	B	B	B	B	A	A	A	AB	AB	A	A	A	B	B	
3	B	BC	ABC	C	C	C	BC	ABC	AB	C	BC	BC	B	AB	
4	B	AB	B	A	B	B	B	B	B	B	B	B	B	B	
5	B	A	B	A	B	B	B	B	B	B	B	B	B	B	
6	B	B	B	B	B	B	B	B	AB	B	A	A	B	A	
7	B	B	A	A	B	B	B	B	B	B	B	B	B	B	
8	B	B	A	B	A	B	B	B	B	B	B	B	B	B	
9	B	A	B	A	B	B	B	B	B	B	B	B	A	B	
10	B	B	A	A	A	B	B	B	B	B	C	B	B	C	
11	A	B	A	B	B	B	B	B	B	A	B	B	C	B	
12	B	B	A	B	B	B	B	B	B	B	B	B	B	B	
13	B	B	B	B	B	B	B	A	AB	B	B	B	B	B	
14	B	B	B	B	B	C	A	B	B	B	B	B	B	B	
15	A	C	A	C	B	B	C	B	B	B	B	B	B	B	
16	B	B	A	?	B	B	B	B	B	B	B	B	B	B	
17	B	B	B	B	B	B	B	B	B	B	A	B	B	B	
18	B	B	AB	A	B	B	B	B	B	B	B	B	B	B	
19	B	B	B	B	B	B	B	B	B	B	A	B	A	B	
20	B	B	A	A	B	B	B	B	B	B	B	B	B	B	
21	B	B	B	B	B	B	B	B	A	B	B	B	A	B	
22	B	B	B	B	B	B	B	B	B	B	B	B	B	A	
23	B	B	B	B	B	B	B	B	B	B	B	B	A	A	
24	A	A	A	A	A	A	AB	B	B	B	B	B	B	B	
25	A	C	B	B	B	B	C	B	B	B	A	C	C	B	
26	B	AB	C	B	B	A	BC	B	B	BC	B	AB	B	B	
27	AB	A	B	A	B	AB	AB	B	B	BC	B	A	BC	B	
28	AB	A	C	AB	B	A	AB	B	AB	B	B	A	B	A	
29	A	A	B	B	B	B	B	B	B	B	B	B	B	B	
30	B	B	B	B	B	A	B	B	B	B	B	B	B	B	
31	A	A	B	B	B	B	B	B	B	B	B	B	B	B	
32	B	B	A	A	A	B	B	B	B	B	B	B	B	B	
33	B	B	B	B	B	B	B	B	B	A	B	B	A	B	
34	A	C	B	B	A	B	ABC	A	A	B	A	C	B	B	
35	B	B	A	B	A	B	B	B	B	B	B	B	B	B	
36	B	A	B	B	B	B	B	B	B	B	B	B	B	B	
37	B	B	B	B	B	B	B	B	B	B	B	B	A	B	
38	B	B	B	B	B	B	B	A	B	B	B	B	B	B	
39	B	B	B	B	B	B	B	A	A	B	B	A	A	A	
40	B	B	B	B	B	A	B	B	B	B	B	B	B	B	
41	B	B	A	A	A	C	AB	B	AB	B	B	B	A	C	
42	B	B	B	A	B	B	B	B	B	B	B	B	B	B	
43	B	B	A	?	B	B	B	B	B	B	B	B	B	B	
44	B	B	A	?	B	B	B	B	B	B	B	B	B	B	
45	B	B	B	?	B	B	B	B	B	A	B	B	B	B	
46	B	B	B	?	B	A	AB	A	AB	A	B	A	A	B	

MNHN	Muséum National d'Histoire Naturelle, Paris, France.
MRAC	Musée Royal de l'Afrique Centrale, Tervuren, Belgium.
MRSN	Museo Regionale di Scienze Naturali, Turin, Italy.
MZE	Museum of Zoology and Entomology, Lund University, Lund, Sweden.
NCI	National Collection of Insects, Pretoria, South Africa.
PPRI	Plant Protection Research Institute, Pretoria, South Africa.
RL	Private collection of Dr R. Linnavuori, Raisio, Finland.
SAM	South African Museum, Cape Town, South Africa.
SM	State Museum, Windhoek, South West Africa.
SMNS	Staatliches Museum für Naturkunde in Stuttgart, Ludwigsburg, West Germany.
TM	Transvaal Museum, Pretoria, South Africa.
UK	University of Kentucky, Lexington, U.S.A.
US	University of Stellenbosch, Stellenbosch, South Africa.
USNM	U.S. National Museum of Natural History, Washington, D.C., U.S.A.

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Check-list of the Afrotropical Idiocerinae

IDIOCERINAE Baker, 1915

CAFIXIA gen. n.

hewitti Cogan, 1916

CHUNRA Distant, 1907

doarna sp. n.

olandeae sp. n.

villa sp. n.

GROOTONIA gen. n.

kenyaensis (Webb, 1976) comb. n.

knighti (Webb, 1976) comb. n.

mella sp. n.

HENSLEYELLA gen. n.

ipoa sp. n.

KOPAMERRA gen. n.

bifurcata (Webb, 1975) comb. n.

dentata sp. n.

divergens (Webb, 1975) comb. n.

haupti (Melichar, 1908) comb. n.

exus (Freytag & Knight, 1966) syn. n.

sparsa (Webb, 1975) comb. n.

truncata (Webb, 1975) comb. n.

MALDONADORA gen. n.

rixia sp. n.

PANDACERUS gen. n.

aethiopicus (Webb, 1976) comb. n.

capeneri sp. n.

flavicosus (Webb, 1976) comb. n.

sinuatus (Webb, 1976) comb. n.

scotti (Distant, 1917) comb. n.

PRETIOSOPUS gen. n.

africanus (Webb, 1976) comb. n.

binotatus (Webb, 1976) comb. n.

caprilei (Webb, 1976) comb. n.

flavocephalus (Webb, 1976) comb. n.

flavosignatus (Webb, 1976) comb. n.

ghanaensis (Webb, 1976) comb. n.

linnavuorii (Webb, 1976) comb. n.

longicornis sp. n.

macrosetus (Webb, 1976) comb. n.

medleri (Webb, 1976) comb. n.

nigeriensis (Webb, 1976) comb. n.

pilosus (Webb, 1976) comb. n.

quadrifaculatus (Webb, 1976) comb. n.

viridiclavus (Webb, 1976) comb. n.

QUARTAUROPA gen. n.

nigrocella (Webb, 1976) comb. n.

REMOYA gen. n.

aldabraensis (Webb, 1976) comb. n.

RHUSOPUS gen. n.

aliwalensis (Webb, 1976) comb. n.

cuneiformis (Naudé, 1926) comb. n.

gonubiensis sp. n.

hardua sp. n.

turneri (Webb, 1976) comb. n.

ROTIFUNKIA China, 1926

agallioides (Maldonado, 1971)

guttifera (Walker, 1851)

THERONOPUS gen. n.

aethiopicus (Heller & Linnavuori, 1968)
comb. n.

alargus sp. n.

angulatus (Webb, 1975) comb. n.

bicornis sp. n.

bifidus sp. n.

citrinus (Melichar, 1914) comb. n.

harpago (Heller & Linnavuori, 1968) comb. n.

Check-list of the Afrotropical Idiocerinae – cont.

<i>lobatus</i> (Webb, 1975) comb. n.	<i>spicatus</i> (Webb, 1976) comb. n.
<i>loratus</i> (Webb, 1976)	<i>tanzaniaensis</i> sp. n.
<i>mimicus</i> (Webb, 1976)	<i>tsavoensis</i> sp. n.
<i>mopanei</i> (Webb, 1976) comb. n.	<i>YACHANDRA</i> gen. n.
<i>mtitoensis</i> sp. n.	<i>projecta</i> (Webb, 1975) comb. n.
<i>ohopohoensis</i> (Linnavuori, 1961) comb. n.	<i>torana</i> sp. n.
<i>quadriocellatus</i> (Melichar, 1908) comb. n.	
<i>robustus</i> (Webb, 1976) comb. n.	Nomen dubium
<i>serratus</i> (Webb, 1975) comb. n.	<i>Idiocerus funereus</i> Melichar, 1911.

IDIOCERINAE Baker

Idiocerini Baker, 1915: 317. Type-genus: *Idiocerus* Lewis.
Idiocerinae Baker; Evans, 1934: 149

Small to moderately large, wedge-shaped leaf-hoppers. Yellow, brownish or greenish yellow, with or without brown or scarlet markings, often with a small brown spot on vertex near to each eye and brown basal triangles to scutellum.

Head wider than pronotum, rarely equal in width (*Hensleyella* and *Hatralixia* Webb). Vertex short and broad, of uniform or near uniform length; evenly rounded to face, rarely angularly rounded (*Theronopus mimicus*). Face distinctly wider to slightly narrower than length; ocelli on face, rarely visible dorsally (*Tumocerus* Evans); antennae moderately long, sometimes expanded apically in male; lora usually narrow, rarely extended to facial margin over ventral one-fifth to one-third (*Yachandra*) or over entire length (*Theronopus*), outer margin sometimes elevated; clypellus usually wider apically with sides concave. Hind femur with apical setal formula 2+0 or 2+1. Hind tibia flattened or square-shaped in cross section. Forewings with two or three subapical cells and four apical cells; appendix broad.

Male abdomen with a pair of lobe-like basal apodemes from third sternite and a pair of lobe or strut-like basal apodemes from third tergite.

Male genitalia with pygophore with or without a dorsolateral vertical fold or posterior processes; vertical ventrolateral folds absent. Valve usually fused to pygophore. Tenth segment collar-like, with or without a pair of ventrolateral arms or posterior processes; sometimes fused to pygophore anteriorly. Subgenital plates usually long, often spatulate in lateral aspect and usually with a marginal series of long fine setae distally. Styles with a single basal apodeme; apical process short to long; with or without a preapical lobe. Connective 'Y'-shaped, articulated with aedeagus, rarely fused; stem short with a dorsomedial keel or a pair of dorsolateral keels (*Yachandra*). Aedeagus with or without a dorsally directed basal apodeme, if absent aedeagus with a basal stem (preatrium) and sometimes lateral apophyses; shaft cylindrical or laterally compressed, with or without processes; gonopore apical or subapical on posterior surface.

Female genitalia with first valvulae transversely striate dorsolaterally, rarely imbricate (*Chunra* and *Candulifera*).

DISTRIBUTION. Cosmopolitan.

REMARKS. The Idiocerinae are a very uniform group of leaf-hoppers which can be distinguished by the following combination of characters: head short, as wide or wider than pronotum, ocelli on the face, antennae moderately long, forewing with broad appendix and male genitalia with pygophore without vertical ventrolateral folds, valve usually fused to pygophore and styli with a single basal apodeme. The group can be distinguished from the similar Macropsinae and Agalliinae by the broad appendix of the forewing and from the similar Eurymelinae by the moderately long rather than short antennae and the aedeagus being attached to the connective rather than disassociated from it.

Key to the Afrotropical genera of Idiocerinae

- | | | |
|---|--|--------------------------------|
| 1 | Vertex with a dark brown spot near to each eye (Fig. 45) | 9 |
| – | Vertex not as above, sometimes mottled with brown | 2 |
| 2 | Face longer than wide with laterofrontal sutures long and distinctly incurved (Fig. 26) | |
| | | <i>CHUNRA</i> Distant (p. 225) |
| – | Face wider than long or if as above, then laterofrontal sutures short and more or less straight | 3 |

- 3 Eyes small, inner margin of eye in facial aspect 0.62–0.77 times perpendicular length of face below eye (Figs 23, 39) 4
 – Eyes moderately large, inner margin of eye in facial aspect 0.83–1.10 times perpendicular length of face below eye (Figs 1, 26) 6
- 4 Dark brown with some yellow markings at least laterally on face (Fig. 23)
 ROTIFUNKIA China (p. 224)
 – Not as above 5
- 5 Yellow, finely and densely mottled with brown (Fig. 38) **HENSLEYELLA** gen. n. (p. 227)
 – Not as above **QUARTAUROPA** gen. n. (p. 252)
- 6 Head either yellow with orange transverse bands or yellow mottled with brown
 KOPAMERRA gen. n. (p. 220)
 – Head yellow or mainly dark brown 7
- 7 Face slightly longer than wide or equal in width to length **REMOYA** gen. n. (p. 254)
 – Face wider than long 8
- 8 First subapical cell of forewing closed (Fig. 116). Apex of style acute. Second valvulae as in Figs. 120–122 **PRETIOSCOPIUS** gen. n. (in part) (p. 243)
 – First subapical cell of forewing open. Apex of style expanded. Second valvulae as in Fig. 111
 PANDACERUS gen. n. (in part) (p. 240)
- 9 Lora reaching facial margin throughout length (Fig. 59) **THERONOPUS** gen. n. (p. 232)
 – Lora not as above 10
- 10 Pronotum finely and transversely striate **CAFIXIA** gen. n. (p. 249)
 – Pronotum shagreened 11
- 11 Vertex finely and transversely striate 12
 – Vertex shagreened 13
- 12 First subapical cell of forewings open. Male Xth segment fused to pygophore (Fig. 136)
 RHUSOPUS gen. n. (p. 250)
 – First subapical cell of forewings closed. Male Xth segment not fused to pygophore
 PRETIOSCOPIUS gen. n. (in part) (p. 243)
- 13 Face with a dark brown spot below each eye (Fig. 47) **MALDONADORA** gen. n. (p. 228)
 – Face not as above 14
- 14 Lora reaching facial margin over ventral one-fifth to one-third (Fig. 54). Aedeagus with a pair of basal dorsally directed processes **YACHANDRA** gen. n. (p. 230)
 – Lora separated from facial margin throughout length. Aedeagus with a pair of subapical ventrally directed processes 15
- 15 Style with preapical lobe lateral (Fig. 110). Second valvulae with several prominent teeth (Figs 112, 113) **PANDACERUS** gen. n. (in part) (p. 240)
 – Style with preapical lobe ventral. Second valvulae with numerous very fine teeth (Fig. 131)
 GROOTONIA gen. n. (p. 248)

KOPAMERRA gen. n.

Type-species: *Idiocerus haupti* Melichar.

Pale yellow, head mottled with brown to orange or with three to four transverse orange bands anteriorly; veins of forewing marked with brown and white patches.

Head 1.12–1.17 times as wide as pronotum, shagreened. Vertex 4.0–4.7 times as wide as long, of uniform length. Face 1.25 times as wide as long; eyes moderately large, inner margin of eyes 0.83 times perpendicular length of face below eyes; interocellar width 2.5 times ocellular width; laterofrontal sutures extended to corresponding ocellus, more or less straight; lora separated from facial margin throughout length; clypellus with sides concave, apex equal in width to base or narrower than base; rostrum extended to mid or hind coxae. Pronotum shagreened. Scutellum equal in length to combined length of pronotum and vertex, shagreened. Forewing with first subapical cell open, second closed, third present. Hind femur with apical setal formula 2+0. Hind tibia flattened, with 14–22 spines in row 1, five to six spines in row 2 and four to eight spines in row 3.

Male dorsal basal abdominal apodemes strut-like, ventral basal abdominal apodemes lobe-like.

Male genitalia with pygophore with inner surface of dorsal margin with a narrow sclerotized band,

sometimes becoming strut-like (Fig. 17); posterior margins with a small protuberance and hyaline region slightly dorsad of midlength. Xth segment loosely attached to pygophore, apices of lateral arms produced ventrally or bifurcate. Subgenital plate narrowly spatulate in lateral aspect, several long fine marginal setae distally and a few very short spine-like setae ventrally. Connective Y-shaped with a dorsomedial keel. Style with apical process elongate, apex upturned, foot-like; preapical lobe ventral. Aedeagus with shaft directed dorsally, elongate, laterally compressed, tapered or expanded to apex in lateral aspect, one or two pairs of subapical ventrally directed processes, gonopore subapical on posterior surface; basal apodeme elongate.

Female genitalia with first valvulae transversely striate dorsolaterally. Second valvulae moderately long and narrow or elongate, several to numerous prominent teeth over distal one-half to three-quarters of valvulae; sclerotized region basad of teeth situated at dorsal margin; without a dorsal hyaline region.

DISTRIBUTION. Widespread throughout the Afrotropical region and Madagascar.

REMARKS. This genus can be distinguished by the following combination of characters: head with orange transverse bands in some species, male dorsal abdominal apodemes strut-like, male pygophore with a protuberance from posterior margins and a sclerotized region at the inner dorsal margin of the male pygophore. All but the first of these characters are found in *Rotifunkia*, but this genus is darker in colour, has smaller eyes and the subgenital plates have short spine-like setae.

Members of the genus can be separated into the *haupti*- and *sparsa*-groups on the basis of colour differences (see key). In addition, the rostrum and ovipositor valvulae are longer and the style apex broader in the *sparsa*-group. Females of this group cannot be identified to species as they are similar in colour and have similar second valvulae. However, I have tentatively identified some females by associating them with males from the same localities.

Key to the species of *Kopamerra*

Females of the *sparsa*-group are indistinguishable (see above).

- | | | |
|---|--|-----------------------------------|
| 1 | Anterior region of head with three to four transverse orange bands (<i>haupti</i> -group) | 2 |
| – | Anterior region of head with orange to brown patches (<i>sparsa</i> -group, males only) | 5 |
| 2 | Anterior region of head with four transverse orange bands. Aedeagus and second valvulae as in Figs 2, 5, 6 | <i>haupti</i> (Melichar) (p. 221) |
| – | Anterior region of head with three transverse orange bands | 3 |
| 3 | Pronotum with two transverse orange bands (Fig. 9) | <i>dentata</i> sp. n. (p. 222) |
| – | Pronotum not as above | 4 |
| 4 | Aedeagal processes long (Fig. 3). Second valvulae as in Fig. 7. Length up to 4·1 mm | <i>bifurcata</i> (Webb) (p. 223) |
| – | Aedeagal processes short (Fig. 4). Second valvulae as in Fig. 8. Length over 4·7 mm | <i>divergens</i> (Webb) (p. 223) |
| 5 | Aedeagus with one short and one long pair of processes (Figs 14–16) | <i>sparsa</i> (Webb) (p. 223) |
| – | Aedeagus with processes short (Figs 18–20) | <i>truncata</i> (Webb) (p. 224) |

Kopamerra haupti (Melichar) comb. n.

(Figs 1, 2, 5, 6)

Idiocerus haupti Melichar, 1908: 65, figs 1, 2. Holotype ♀, TANZANIA (MM) [examined].

Idiocerus exus Freytag & Knight, 1966: 76, figs 1–10. Holotype ♂, MADAGASCAR (MNHN) [examined].

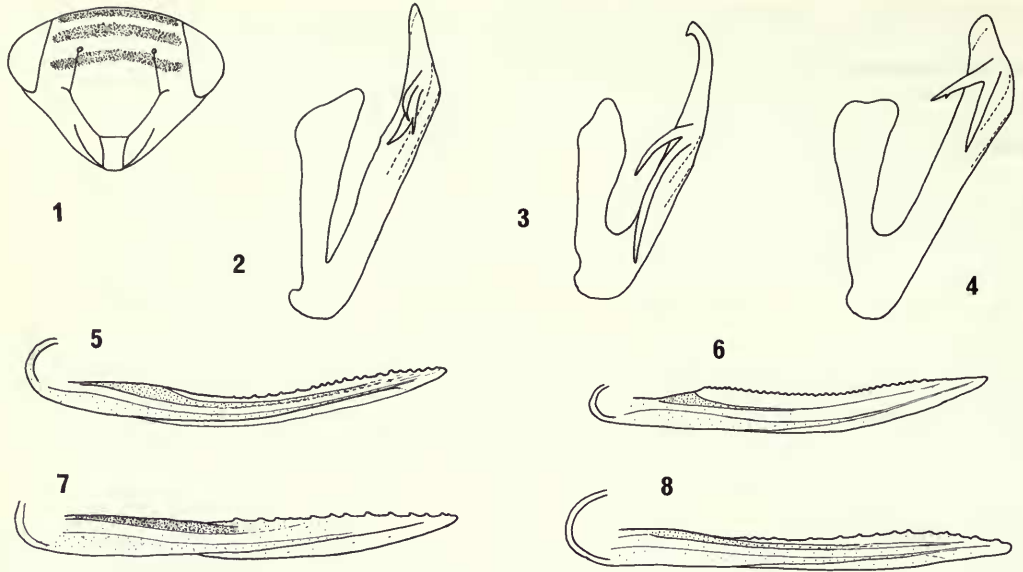
Syn. n.

MATERIAL EXAMINED

Numerous examples from **Sudan, Chad, Nigeria, Central African Republic, Angola, Tanzania, South Africa, Madagascar** (BMNH; RL; USNM; SMNS; SM; MRAC).

REMARKS. This species varies considerably in the extent of the brown and whitish markings on the forewings, and a few specimens examined have two brown transverse bands.

Collected on *Haplocoelum foliolosum* in Angola.



Figs 1-8 *Kopamerra* species. 1, 2, *K. Haupti*. (1) face; (2) aedeagus. 3, *K. bifurcata*, aedeagus. 4, *K. divergens*, aedeagus. 5, 6, *K. Haupti*. (5) second valvulae, holotype; (6) same, Sudan. 7, *K. bifurcatus*, second valvulae. 8, *K. divergens*, second valvulae.

***Kopamerra dentata* sp. n.**

(Figs 9-13)

Length: ♂, 5.0 mm; ♀, 5.8 mm.

Pale yellow with three transverse orange bands anteriorly on head and two on pronotum.

Male genitalia with upturned apex of style narrow with a subapical tooth. Aedeagus with shaft of similar width to near apex in lateral aspect, tapered distally to narrowly rounded apex; two pairs of lateral subapical ventrally directed processes, one pair very short, the other moderately long, bifurcate and situated more ventrally.

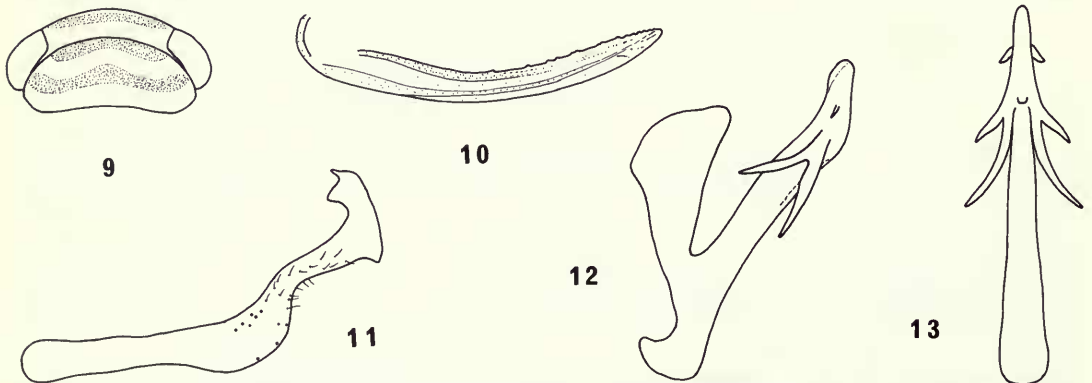
Female genitalia with second valvulae toothed over slightly less than its distal half, sclerotized region at dorsal margin moderately long.

MATERIAL EXAMINED

Holotype ♂, Kenya: Likoni, xi.1911 (*Alluaud & Jeannel*) (MNHN).

Paratype. Kenya: 1 ♀, Diani Beach, v.1957 (*N. L. H. Krauss*) (BMNH).

REMARKS. This species can be distinguished by the two transverse orange bands on the pronotum and the shape of the male and female genitalia, as noted above.



Figs 9-13 *Kopamerra dentata*. 9, head and pronotum; 10, second valvulae; 11, style; 12, 13, aedeagus.

***Kopamerra bifurcata* (Webb) comb. n.**

(Figs 3, 7)

Idiocerus bifurcatus Webb, 1975: 168, figs 1–12. Holotype ♂, UGANDA (BMNH) [examined].

MATERIAL EXAMINED

Uganda: 1 ♂ (holotype), 1 ♀, Lolet, Karamoja (BMNH). **Tanzania:** 1 ♂ (BMNH).***Kopamerra divergens* (Webb) comb. n.**

(Figs 4, 8)

Idiocerus divergens Webb, 1975: 169, figs 13–22. Holotype ♂, ANGOLA (BMNH) [examined].

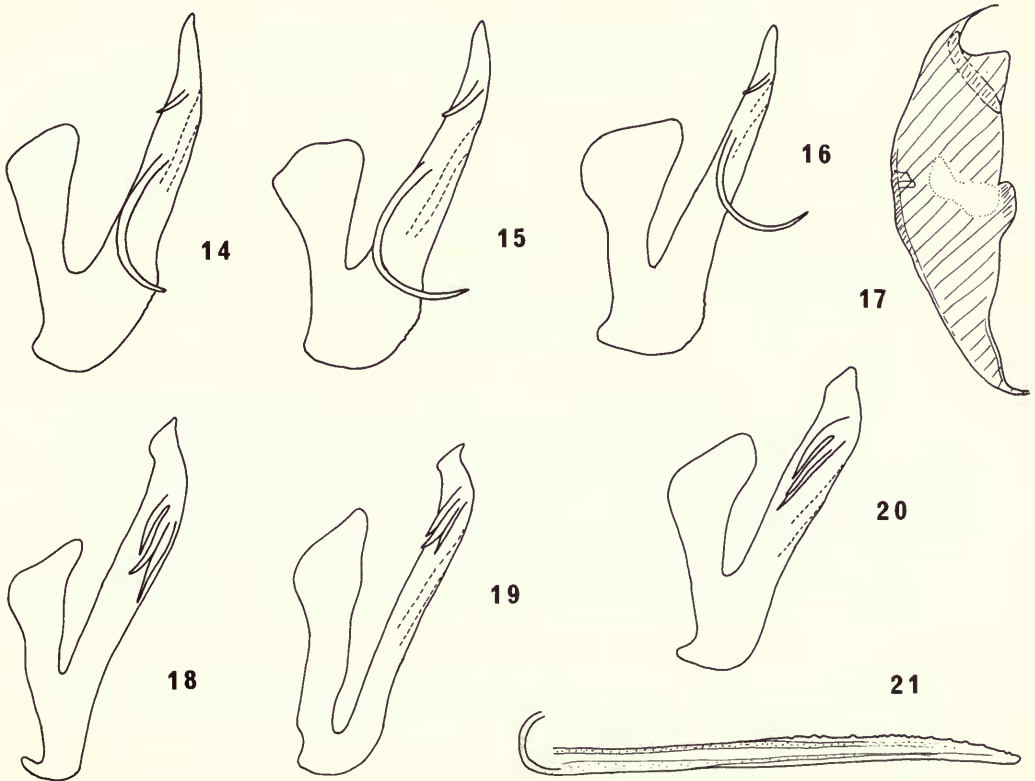
MATERIAL EXAMINED

Angola: 45 ♂, 36 ♀ (type-series), Salazar, I.I.A.A., at light (BMNH; 1 ♂, 1 ♀, PPRI).***Kopamerra sparsa* (Webb) comb. n.**

(Figs 14–17)

Idiocerus sparsus Webb, 1975: 172, figs 23–32. Holotype ♂, NIGERIA (BMNH) [examined].

MATERIAL EXAMINED

Gambia: 1 ♂, Tendebe Camp nr R. Gambia (MZE). **Nigeria:** 2 ♂, Malumfashi (RL); 2 ♂, 2 ♀ (including type-series), Zaria, Samaru (BMNH); 1 ♂, 2 ♀ Ile-Ife (BMNH). **Chad:** 1 ♂, Bahr-el-Ghazal (MNHN).

Figs 14–21 *Kopamerra* species. 14–17, *K. sparsa*. (14) aedeagus, Central African Republic (MNHN); (15) same, Ivory Coast (MNHN); (16) same, Nigeria (RL); (17) left side of male pygophore, posterior view. 18–21, *K. truncatus*. (18) aedeagus, South Africa (BMNH); (19) same, Tanzania (MRAC); (20) Angola (BMNH); (21) second valvulae.

***Kopamerra truncata* (Webb) comb. n.**

(Figs 18–21)

Idiocerus truncatus Webb, 1975: 172, figs 33–41. Holotype ♂, ANGOLA (BMNH) [examined].

MATERIAL EXAMINED

Nigeria: 1 ♂, 3 ♀, Samaru (BMNH). **Central African Republic:** 1 ♂, Bossangoa, Bossembele (RL). **Zaire:** 1 ♂, Elizabethville; 1 ♀, Kapanga; 1 ♂, 2 ♀, Albertville; 1 ♂, Kivu, Kavimvira (Uvira) (all IRSNB). **Tanzania:** 1 ♂, Musosa (IRSNB). **Zimbabwe:** 1 ♂, Bulawayo (BMNH). **Angola:** 7 ♂, 4 ♀ (type-series), Duque de Braganca Falls (BMNH). **South Africa:** 4 ♂, 1 ♀, Rustenburg (BMNH; RL).

ROTIFUNKIA China*Rotifunkia* China, 1926: 672. Type-species: *Paropia guttifera* Walker, by original designation.

Head and thorax brown, marked with pale yellow at least laterally on face below eyes. Forewing dark brown with a subapical hyaline patch on or near costal margin; with or without white or yellow patches.

Head 1.09–1.10 times as wide as pronotum, shagreened. Vertex 5.5–7.5 times as wide as medial length; of uniform length or shorter medially than length next to eyes. Face 1.15 times as wide as long; eye small, inner margin of eye 0.66 times perpendicular length of face below eyes; interocular width 2.7 times ocellular width; laterofrontal sutures extended approximately one-half distance to corresponding ocellus, more or less straight; lora separated from facial margin throughout length; clypellus with sides concave, apex equal in width to base or narrower than base; rostrum extended to near hind coxae. Pronotum shagreened. Scutellum equal in length to combined length of pronotum and vertex, shagreened. Forewing with first subapical cell open, second closed, third present. Hind femur with apical setal formula 2+0. Hind tibia flattened, with 3–12 spines in row 1, 3–5 spines in row 2 and 3–5 spines in row 3; distal spines of row 2 with a weak basal process.

Male dorsal basal abdominal apodemes strut-like, ventral basal abdominal apodemes lobe-like.

Male genitalia with posterior margins of pygophore with a small protuberance slightly distad of midlength; infolded dorsal margins of pygophore with a narrow sclerotized band. Tenth segment fused to pygophore; expanded posteriorly in lateral aspect. Subgenital plates expanded at midlength in lateral aspect, several short spine-like marginal setae dorsally and ventrally. Connective Y-shaped with a dorsomedial keel. Style with apical process relatively short, foot-shaped; preapical lobe ventral. Aedeagus with shaft directed dorsally, elongate, cylindrical basally, laterally compressed and slightly expanded subapically in lateral aspect, a pair of short ventrally directed processes near apex and a pair of long ventrally directed processes at approximately one-third distance from apex to base of shaft, gonopore subapical on posterior surface; basal apodeme elongate.

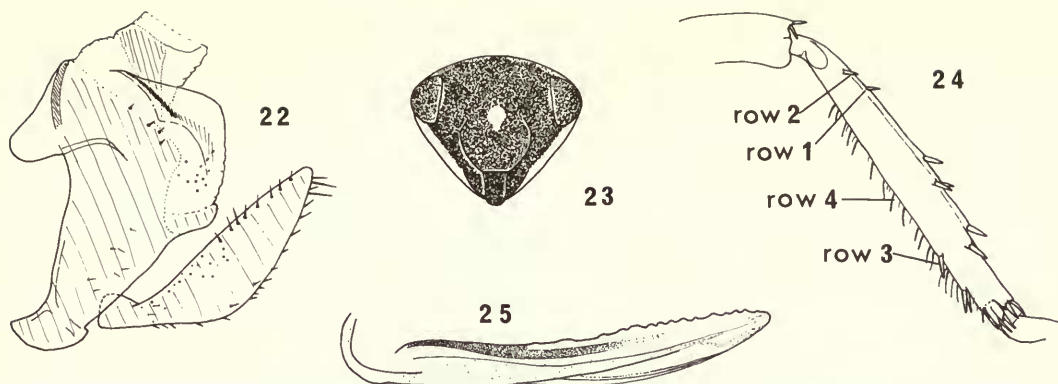
Female genitalia with first valvulae transversely striate dorsolaterally. Second valvulae moderately long and narrow; several prominent teeth over slightly more than distal half of valvulae; sclerotized region basad of teeth situated at dorsal margin; without a dorsal hyaline region.

DISTRIBUTION. Northern tropical Africa.

REMARKS. This genus has several characters in common with *Kopamerra* (see remarks under that genus) but can be distinguished by the following combination of characters: dark colour, eyes small and subgenital plate with short spine-like marginal setae. Maldonado Capriles (1971) reviewed the two species in this genus, but the following points should also be noted. The spinulation of the hind tibia is reduced in *guttifera* (Fig. 24), there being only three to five spines in row 1 compared to 12 in *agallioides*. There is some variation in the extent of the yellow markings in *guttifera*, although those on the vertex and pronotum never reach the distinctness of the markings in *agallioides* (see Maldonado Capriles, 1971: 203, fig. 11). As the male genitalia of *guttifera* and *agallioides* are almost identical, the two species are only tentatively regarded as distinct on superficial differences. The female of *agallioides* is unknown. The distinctive facial markings in this genus are more typical of those found in the Eurymelinae.

Key to the species of *Rotifunkia* (males)

- 1 Vertex and pronotum with distinct yellow markings. Hind tibia with 12 spines in row 1
agallioides Maldonado Capriles (p. 225)
- Vertex and pronotum with yellow markings absent or indistinct. Hind tibia with three to five spines in row 1 (fig. 24) *guttifera* (Walker) (p. 225)



Figs 22–25 *Rotifunkia guttifera*. 22, male genital capsule; 23, face; 24, left hind leg; 25, second valvulae.

***Rotifunkia guttifera* (Walker)**

(Figs 22–25)

Paropia guttifera Walker, 1851: 845. Holotype ♀ [no data] (BMNH) [examined].

Rotifunkia guttifera (Walker) Maldonado Capriles, 1971: 203, figs 15–24.

MATERIAL EXAMINED

Numerous examples from Ivory Coast, Nigeria, Sierra Leone (BMNH; RL).

***Rotifunkia agallioides* Maldonado Capriles**

Rotifunkia agallioides Maldonado Capriles, 1971: 203, figs 1–14. Holotype ♂, ETHIOPIA (USNM) [examined].

MATERIAL EXAMINED

Ethiopia: 1 ♂ (holotype), nr Harrar (USNM).

CHUNRA Distant

Chunra Distant, 1907: 193. Type-species: *Iassus puncticosta* Walker, by original designation.

DISTRIBUTION. Tropical Africa, Indonesia and NE. Australia.

REMARKS. This genus, previously known only from Indonesia and NE. Australia, has been recently redescribed (Webb, 1983). The new species described below are remarkably similar to the type-species *puncticosta*, but differ mainly in the shape of the aedeagus. Members of the genus can be distinguished by the following combination of characters: face long, latero frontal sutures incurved, rostrum long, extending beyond hind coxae, forewing with brown and yellow patches on costal margin and veins, male pygophore with a long vertical lateral fold from the dorsal margin and a lateral hyaline region and process from each dorsoposterior corner, and male Xth segment with lateral arms strongly produced ventrally. In addition, *Chunra* and *Candulifera* (Webb, 1983) are the only two genera with the first valvulae imbricate rather than transversely striate dorsolaterally.

Key to the Afrotropical species of *Chunra*

- 1 Small species, up to 4.7 mm. Aedeagal shaft adjacent to gonopore strongly produced posteriorly (Fig. 30). Second valvulae curved slightly ventrally (Fig. 31)..... *villa* sp. n. (p. 226)
- Moderately large species, 4.7 mm and over. Aedeagal shaft adjacent to gonopore at most weakly produced posteriorly. Second valvulae curved slightly dorsally 2
- 2 Aedeagal shaft with a long medial keel dorsad of gonopore (Fig. 32). Second valvulae with teeth extended to apex (Fig. 34)..... *doarna* sp. n. (p. 226)
- Aedeagal shaft not as above (Fig. 36). Second valvulae with teeth not extended to apex (Fig. 37)..... *olandea* sp. n. (p. 226)

Chunra villa sp. n.

(Figs 26–31)

Length: ♂, 4.0–4.6 mm, mean 4.2 mm; ♀, 4.0–4.7 mm, mean 4.2 mm.

Head and thorax yellow, sometimes tinged with green, finely and often densely mottled with brown. Scutellum with a pair of brown basal triangles. Forewing with costal margin and veins marked with yellow and brown.

Male genitalia with shaft of aedeagus short, produced posteriorly adjacent to gonopore and produced dorsally dorsad of gonopore forming a posterior medial keel, a pair of very short processes from ventral rim of gonopore.

Female genitalia with second valvulae very long and narrow, curved slightly ventrally; several somewhat irregular teeth along medial one-third of valvulae.

MATERIAL EXAMINED

Holotype ♂, **Nigeria**: Mokwa, Zugurma, 12.i.1972 (*S. S. Chadha*) (BMNH).

Paratypes. **Ivory Coast**: 12 ♂, 19 ♀, Bingerville, i–iv, 1963–64 (*J. Decelle*) (MRAC). **Ghana**: 1 ♂, Tafo, at light, 15.v.1957 (*V. F. Eastop*) (BMNH). **Nigeria**: 23 ♂, 6 ♀, Ile-Ife, 7.i.–5.iv.1969–75 (*J. T. Medler*) (BMNH; USNM); 3 ♂, 2 ♀, Ife (RL). **Angola**: 2 ♂, 4 ♀, Duque de Braganca Falls, 11–12.iii.1972 (BMNH).

REMARKS. This species can be distinguished by its small size and dorsally and posteriorly produced, short, aedeagal shaft with a dorsomedial keel. The two males from Angola have the posterior extension of the aedeagal shaft slightly longer than shown in Fig. 30.

Chunra doarna sp. n.

(Figs 32–34)

Length: ♂, 5.0–5.8 mm, mean 5.2 mm; ♀, 5.1–5.8 mm, mean 5.3 mm.

Colour as in *villa*.

Male genitalia as in *villa* but aedeagal shaft slightly longer and posterior extension less strongly produced.

Female genitalia with second valvulae similar to those of *villa* but curved slightly dorsally and teeth over distal two-thirds of valvulae.

MATERIAL EXAMINED

Holotype ♂, **Angola**: Salazar [Dala Tando], I.I.A.A., 9–15.iii.1972, at light (BMNH).

Paratypes. **Central Africa Republic**: 3 ♂, 1 ex., La Maboke, 8, 11.xi.1969 22.vii.68 (*M. Boulard*); 1 ♂, M. Bale nr La Maboke, 11.i.1970; 1 ♂, Boukoko, 27.i.1970 (*M. Boulard*) (all MNHN). **Angola**: 68 ♂, 20 ♀, same data as holotype (BMNH; USNM; AMNH).

REMARKS. This species is closely related to *villa* but can be distinguished by its larger size and slightly different genitalia, as noted above. A few males from Angola lack the posterior extension of the aedeagus, and there is also some variation in the length of the aedeagal shaft between specimens from Angola and Central African Republic (see Figs 32, 33).

Chunra olandea sp. n.

(Figs 35–37)

Length: ♂, 4.7–5.2 mm, mean 5.0 mm; ♀, 5.0–5.2 mm, mean 5.1 mm.

Colour as in *villa*.

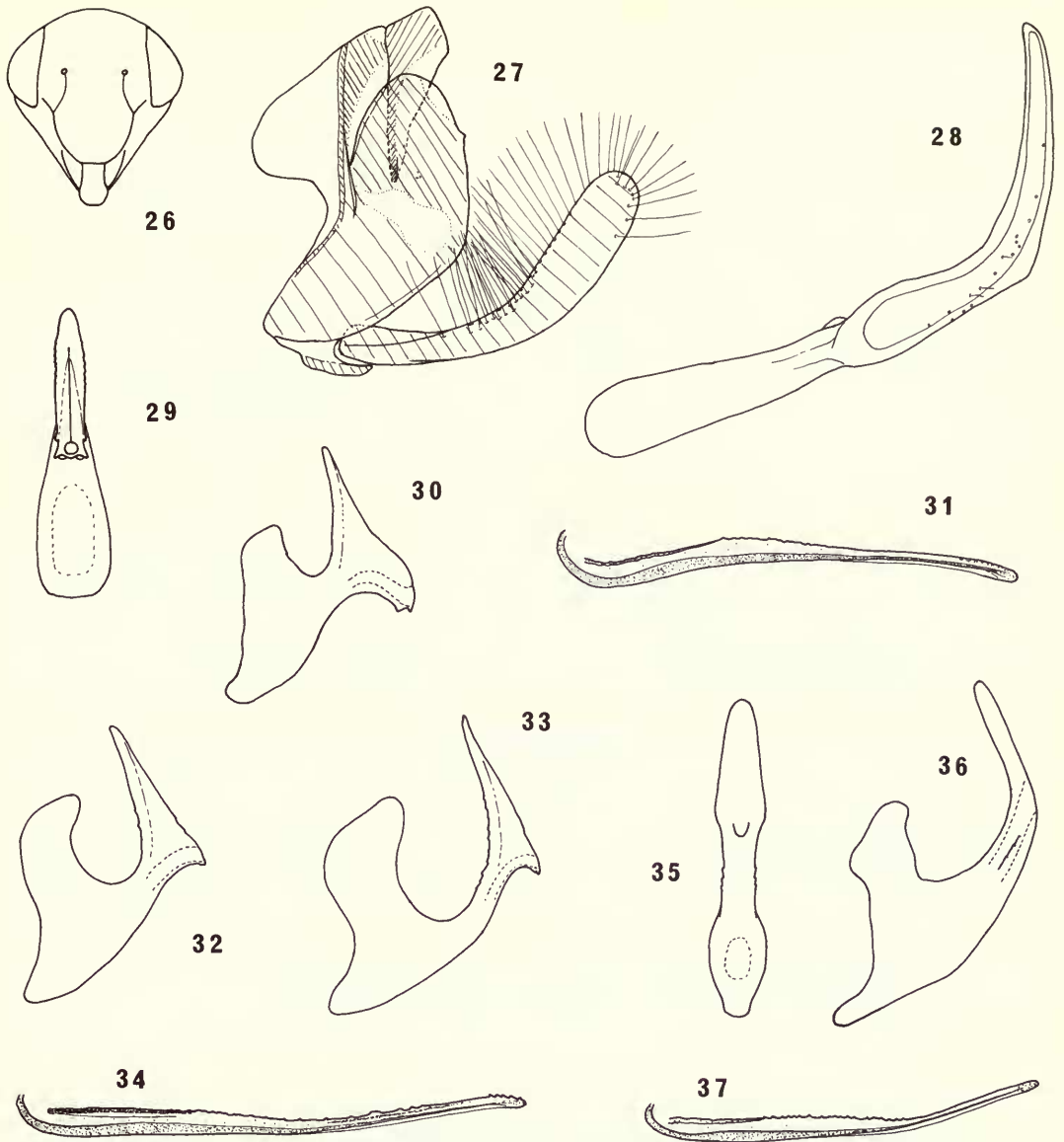
Male genitalia similar to those of *villa* and *doarna* but aedeagal shaft slightly expanded laterally in posterior aspect, without posterior extension, processes or dorsoposterior keel.

Female genitalia with second valvulae similar to those of *doarna* but teeth over medial third of valvulae.

MATERIAL EXAMINED.

Holotype ♂, **Ghana**: Tafo, at light, 29.iv.57 (*V. F. Eastop*) (BMNH).

Paratypes. **Ivory Coast**: 1 ♂, Bingerville, 15–31.iii.1962 (*J. Decelle*) (MRAC). **Ghana**: 1 ♂, Ashanti, Bobiri, 37 km SE. of Kumasi, 21.xi.1959 (*N. D. Jago*) (BMNH). **Nigeria**: 1 ♂, Ogoja, iv.1971 (*J. T. Medler*); 1 ♀, Ibadan, 13–24.vi.1977 (*J. C. Deeming*); 1 ♀, Lagos State, 6 km NW. of Agege, 26.i.1975



Figs 26–37 *Chunra* species. 26–31, *C. villa*. (26) face; (27) male genital capsule; (28) style; (29, 30) aedeagus; (31) second valvulae. 32–34, *C. doarna*. (32, 33) aedeagus; (34) second valvulae. 35–37, *C. olandea*. (35, 36) aedeagus; (37) second valvulae.

(BMNH). Uganda: 1 ♂, Ruwenzori Range, Semliki Forest, 905 m, 22.viii.–3.ix.1952 (*D. S. Fletcher*) (BMNH).

REMARKS. This species can be distinguished from *villa* by its larger size, and from *villa* and *doarna* by its slightly different genitalia, as noted above. In the shape of the aedeagus, *olandea* is very similar to *puncticosta*, but has the shaft slightly expanded laterally in posterior aspect.

***HENSLEYELLA* gen. n.**

Type-species: *Hensleyella ipoa* sp. n.

Pale yellow, finely and densely mottled with brown. Scutellum with a pair of brown basal triangles. Costal margin and veins of forewing with brown and yellow patches.

Head equal in width to pronotum, shagreened. Vertex 8.5 times as wide as medial length; slightly shorter medially than length next to eyes. Face equal in width to length; eye small, inner margin of eye 0.71 times perpendicular length of face below eyes; interocellar width approximately equal to ocellular width; laterofrontal sutures extended to corresponding ocellus, more or less straight; lora separated from facial margin throughout length; clypellus with sides concave, apex wider than base; rostrum missing. Pronotum shagreened. Scutellum slightly longer than combined length of pronotum and scutellum, shagreened. Forewings with first subapical cell open, second closed, third present. Hind femur with apical setal formula 2+0. Hind tibia flattened, with 18 spines in row 1, four to five spines in row 2 and five to seven spines in row 3; distal spines of row 2 without a basal process.

Male abdomen with dorsal and ventral basal abdominal apodemes reduced.

Male genitalia with pygophore with a long vertical lateral fold from dorsal margin and a short process from each dorsoposterior corner of pygophore. Tenth segment solidly attached to pygophore anteriorly, lateral arms expanded posteriorly. Subgenital plates narrowly spatulate in lateral aspect; numerous short fine setae distally along dorsal and apical margin. Connective Y-shaped with dorsomedial keel indistinct. Style with apical process elongate, tapered to acute upturned apex; preapical lobe indistinct. Aedeagus with shaft elongate, laterally compressed, curved dorsally, gonopore apical on posterior surface; basal apodeme long with a pair of subapical posterior processes.

Female genitalia unknown.

DISTRIBUTION. Tanzania.

REMARKS. This genus can be distinguished by the following combination of characters: head equal in width to pronotum, eyes small, ocelli closely set and basal apodeme of the aedeagus with a pair of processes. It is similar to *Chunra* in having the costal margin and the veins of the forewings with yellow and brown patches, and the male pygophore with a long vertical lateral fold from the dorsal margin and a process from each dorsoposterior corner.

Hensleyella ipoa sp. n.

(Figs 38–44)

Length: ♂, 5.2 mm.

Colour as in generic description.

Male genitalia with ventroposterior corners of Xth segment curved medially, claw-like. Aedeagus with posterior margin of shaft laterally compressed, keel-like; basal apodeme with dorsoposterior processes robust, strongly curved dorsally in lateral aspect.

MATERIAL EXAMINED

Holotype ♂, Tanzania: 'Tanganyika', 7.v.1953 (*J. M. Hensley*) (BMNH).

MALDONADORA gen. n.

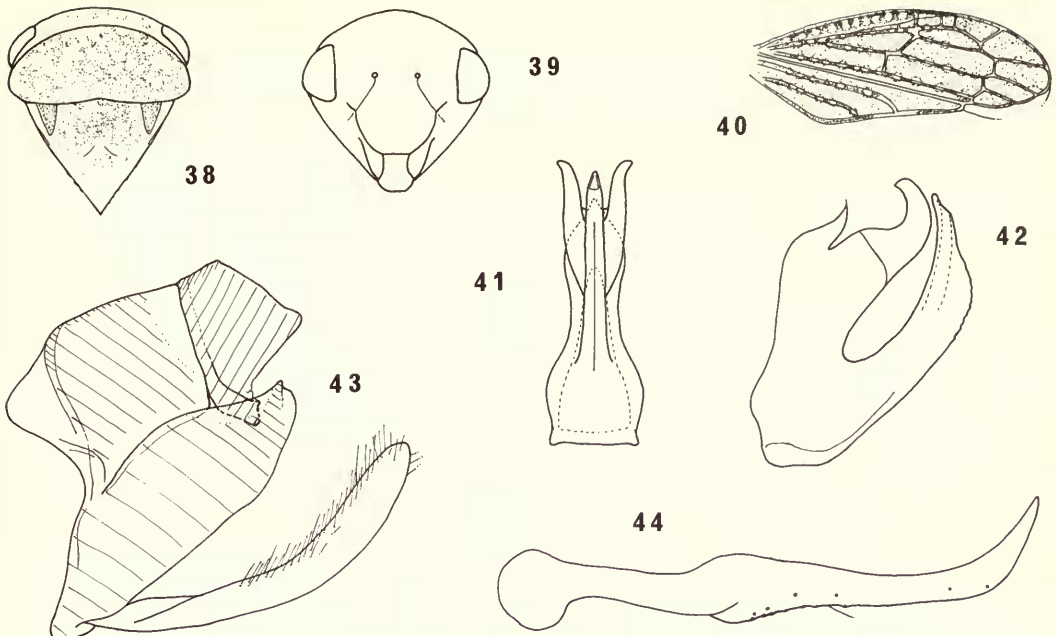
Type-species: *Maldonadora rixia* sp. n.

Pale to greenish yellow; head and thorax marked with brown, including a posterior spot on vertex near to each eye, a spot on face below each eye and a pair of basal triangles on scutellum. Forewings brownish to whitish hyaline, costal margin yellow or greenish yellow, veins concolorous with wing or mainly dark brown.

Head 1.25 times as wide as pronotum, shagreened. Vertex 5.6 times as wide as medial length; slightly shorter medially than length next to eyes. Face 1.15 times as wide as long; lateral margins of face adjacent eye with one or two spine-like setae; eye moderately large, inner margin of eye 0.83 times perpendicular length of face below eyes; interocellar width 1.7 times ocellular width; laterofrontal sutures extended to corresponding ocellus, more or less straight; lora separated from facial margin throughout length; clypellus with sides concave, apex wider than base; rostrum extended to near hind coxae. Pronotum shagreened. Scutellum slightly longer than combined length of pronotum and vertex, shagreened. Forewing with first subapical cell open, second closed, third present. Hind femur with apical setal formula 2+0. Hind tibia flattened, with 17 spines in row 1, six spines in row 2 and seven to eight spines in row 3.

Male dorsal basal abdominal apodemes lobe-like, ventral pair reduced.

Male genitalia with pygophore with a long lateral fold from dorsal margin. Tenth segment loosely attached to pygophore, pair of very long lateral ventrally directed arms. Subgenital plates narrowly spatulate in lateral aspect; numerous long fine marginal setae dorsally and apically. Connective Y-shaped



Figs 38–44 *Hensleyella ipoa*. 38, head and thorax; 39, face; 40, forewing; 41, 42, aedeagus; 43, male genital capsule; 44, style.

with dorsomedial keel. Style with apical process elongate, curved laterally, tapered to acute apex; preapical lobe absent. Aedeagus relatively small, shaft elongate, cylindrical, curved dorsally and tapered to apex, without processes, gonopore subapical on posterior surface; basal apodeme elongate.

Female genitalia with first valvulae transversely striate dorsolaterally. Second valvulae very long and narrow, few fairly weak teeth distally; sclerotized region basad of teeth situated at dorsal margin; dorsal hyaline region absent.

DISTRIBUTION. Tropical Africa.

REMARKS. This genus can be distinguished by the following combination of characters: vertex with a pair of posterior brown spots, face with a pair of brown spots, male pygophore with a long dorsolateral fold, male Xth segment with very long lateral arms and aedeagus small.

Maldonadora rixia sp. n.

(Figs 45–52)

Length: ♂, 4.8–5.0 mm, mean 4.9 mm; ♀, 4.9–5.4 mm, mean 5.1 mm.

Colour as in generic description with head, thorax and forewings sometimes heavily marked with dark brown; veins of forewing concolorous with wing or dark brown with a whitish patch at junction of cubital vein and first *m-cu* cross vein, and at midlength and apex of radial vein.

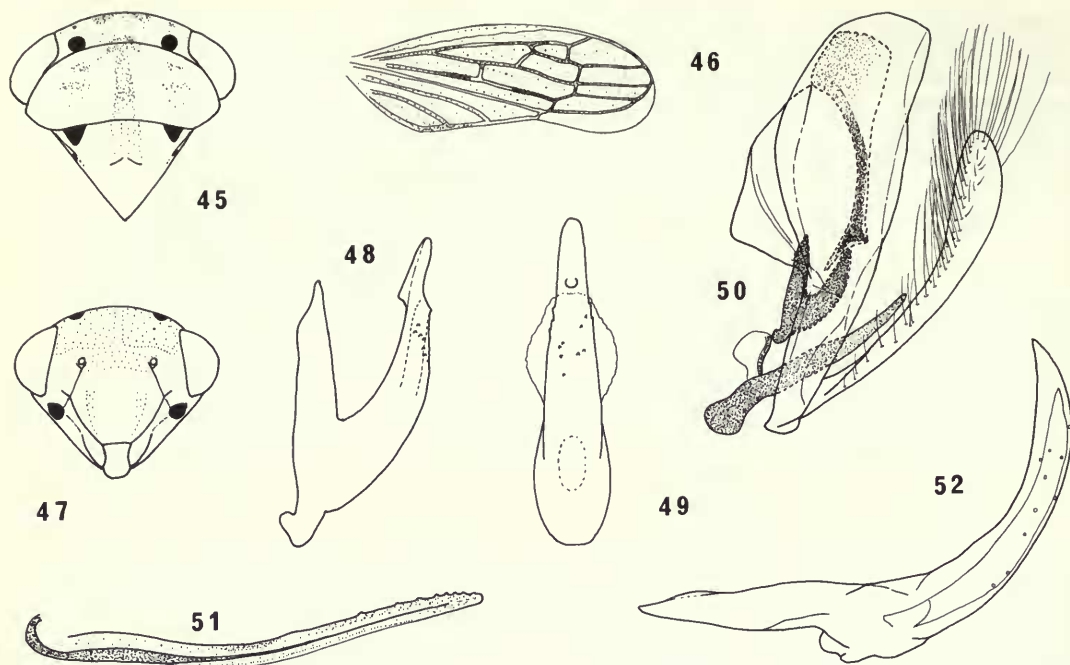
Male genitalia with aedeagal shaft with a pair of triangular lateral flanges arising apically on anterior surface, posterior margin of shaft abruptly narrowed subapically in lateral aspect.

Female genitalia as in generic description.

MATERIAL EXAMINED

Holotype ♂, **Nigeria**: Udo F R, MW State, 11.iv.1975 (*J. T. Medler*) (BMNH).

Paratypes. **Nigeria**: 1 ♀, same data as holotype (BMNH). **Cameroun**: 1 ♂, Matute, Tiko Plantation, 24.iv., 6.v.1949 (*B. Malkin*) (CAS); 1 ♂, 2 ♀, Yaoundé, xi.1964 (*P. B. de Miré*) (MNHN). **Central African Republic**: 3 ♂, 1 ♀, Boukoko, P.L., 7.xii.1968 (*M. Boulard*) (MNHN); 4 ♂, 10 ♀, 2 ex.; La Maboque, P.L., 3.x.–ii.1968–74 (*M. Boulard*) (*P. Kombo*) (MNHN; BMNH).



Figs 45–52 *Maldonadora rixia*. 45, head and thorax; 46, forewing; 47, face; 48, 49, aedeagus; 50, male genital capsule; 51, second valvulae; 52, style.

YACHANDRA gen. n.

Type-species: *Idiocerus projectus* Webb.

Pale yellow; vertex usually with a brown anterior spot near to each eye and scutellum usually with a pair of brown basal triangles.

Head 1.18–1.27 times width of pronotum, shagreened. Vertex 4.6–5.0 times as wide as medial length, slightly shorter medially than length next to eyes. Face 1.20–1.35 times as wide as long, shagreened; eye large, inner margin of eyes 0.83–1.00 times perpendicular length of face below eyes; interocellar width twice ocellular width; laterofrontal sutures extended two-thirds distance to point adjacent to corresponding ocellus, more or less straight; lora extended to facial margin over ventral one-third to one-fifth; clypellus with sides concave, apex equal in width to base; rostrum extended to mid coxae. Pronotum shagreened. Scutellum slightly shorter than combined length of pronotum and vertex, shagreened. Forewing with first subapical cell open, second closed, third present. Hind femur with apical setal formula 2+0. Hind tibia flattened, with seven to nine spines in row 1, four to six spines in row 2 and four to five spines in row 3.

Male dorsal and ventral basal abdominal apodemes lobe-like.

Male genitalia with pygophore with a long lateral fold from dorsal margin; dorsoposterior corner of pygophore produced. Tenth segment solidly attached to pygophore, lateral arms with internal ledges, apices bifurcate with lower branch membranous basally. Subgenital plates elongate, very narrowly spatulate; several moderately long fine marginal setae distally. Connective Y-shaped with a pair of dorsolateral keels. Style with apical process elongate, curved dorsolaterally, tapered distally to acute apex, several relatively long fine setae laterally; preapical lobe indistinct. Aedeagus with shaft elongate, laterally compressed, directed dorsally and tapered to apex, pair of lateral dorsally directed processes arising basally, sometimes with a medial ventrally directed posterior process arising subapically, gonopore apical or subapical on posterior surface; basal apodeme moderately long.

Female genitalia with first valvulae transversely striate dorsolaterally. Second valvulae elongate, few prominent teeth distally; sclerotized region basad of teeth situated at or near dorsal margin; dorsal hyaline region indistinct.

DISTRIBUTION. South Africa, South West Africa.

REMARKS. This genus can be distinguished by the following combination of characters: lora extending to the facial margin ventrally, male pygophore with dorsoposterior corners produced, male Xth segment with ventral arms membranous basally, connective with paired dorsal keels, styles with long lateral setae and the aedeagus with a pair of dorsally directed basal processes.

Key to the species of *Yachandra*

- 1 Aedeagus with three processes. Length: 3.9–4.0 mm. South West Africa.... *projecta* (Webb) (p. 231)
 – Aedeagus with two processes. Length: 4.1–4.7 mm. South Africa *torana* sp. n. (p. 231)

Yachandra projecta (Webb) comb. n.

(Fig. 57)

Idiocerus projectus Webb, 1975: 173, figs 46–57. Holotype ♂, SOUTH WEST AFRICA (BMNH) [examined].

MATERIAL EXAMINED

South West Africa: 10 ♂, 15 ♀ (including type-series), Aus (BMNH).

Yachandra torana sp. n.

(Figs 53–56, 58)

Length: ♂, 4.4 mm; ♀, 4.1–4.7 mm, mean 4.4 mm.

Pale yellow; vertex with a dark brown spot near each eye, scutellum with a pair of brown basal triangles.

Male genitalia with dorsoposterior corner of pygophore acutely produced. Aedeagal shaft sinuate in lateral aspect, pair of moderately long dorsally directed processes arising slightly basad of midlength of shaft, gonopore elongate.

Female genitalia as in generic description.

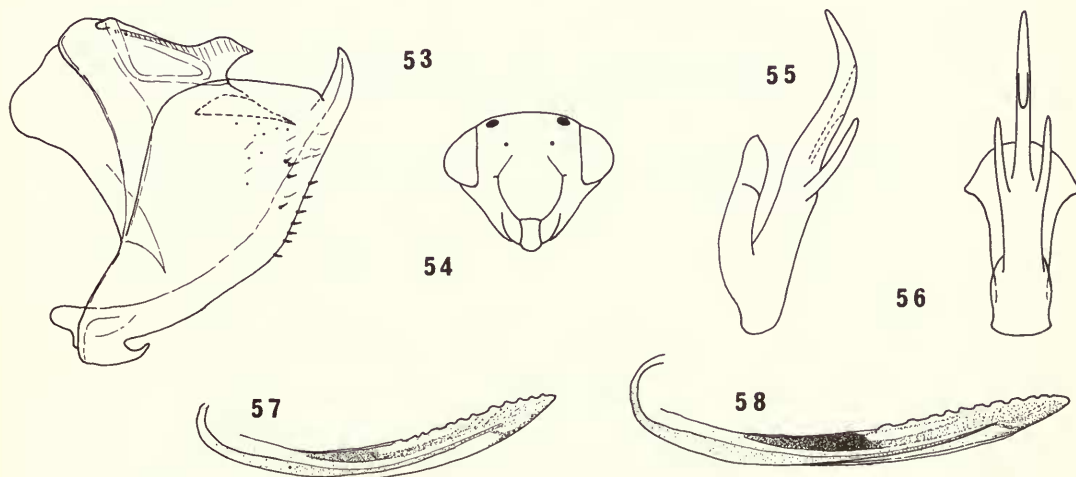
MATERIAL EXAMINED

Holotype ♂, South Africa: Rustenburg, on *Mimusops zeyheri*, 12.iii.1965 (A. L. Capener) (NCP).

Paratypes. South Africa: 3 ♀, 1 ex., Rustenburg, 20.ii, 12.iii.1965 (A. L. Capener) (NCI; BMNH); 1 ♀, 1 ex., Hartebeespoort Dam, 20.v.1965 (P. Paliatseas) (NCI).

REMARKS. This species can be distinguished from *projecta* by its slightly smaller size and the two rather than three aedeagal processes.

Collected on *Mimusops zeyheri*.



Figs 53–58 *Yachandra* species. 53–56, *Y. torana*. (53) male genital capsule; (54) face; (55, 56) aedeagus. 57, *Y. projecta*, second valvulae. 58, *Y. torana*, second valvulae.

***THERONOPUS* gen. n.**

Type-species: *Idiocerus angulatus* Webb.

Yellow to stramineous; vertex with a dark brown anterior spot near each eye; head and thorax sometimes mottled with brown; scutellum with a pair of basal dark brown triangles or spots; veins of forewing colorous with wing or brown with whitish spots.

Head 1.14–1.24 times as wide as pronotum, shagreened. Vertex 4.0–7.0 times as wide as medial length, equal in length or shorter medially than length next to eyes. Face 1.07–1.25 times as wide as long; eyes large, inner margin of eye approximately equal in length to perpendicular length of face below eyes; interocellar width twice ocellular width; laterofrontal sutures extended approximately one-half distance to corresponding ocellus; lora extended to facial margin throughout length; clypellus with sides concave, apex wider than base; rostrum extended to near hind coxae. Pronotum shagreened. Scutellum slightly shorter than combined length of pronotum and vertex, shagreened. Forewing with first subapical cell open, second closed, third present. Hind femur with apical setal formula 2+0 or 2+1. Hind tibia flattened, with 11–21 spines in row 1, five to seven spines in row 2 and five to nine spines in row 3; distal spines of row 2 with a weak basal process.

Male basal abdominal apodemes lobe-like, dorsal pair small to large, ventral pair elongate or reduced.

Male genitalia with Xth segment variable (see remarks below), either solidly or loosely attached to pygophore (Figs 73, 91), rarely fused to pygophore anteriorly (Fig. 87). subgenital plates narrowly spatulate in lateral aspect, several long fine marginal setae distally and often a few short spine-like setae ventrally. Style with apical process elongate, tapered to apex, or apex foot-shaped; preapical lobe ventral, dorsal or medial, sometimes indistinct. Aedeagus with shaft curved dorsally, elongate, tapered to apex, laterally compressed, often posterior margin more strongly compressed laterally; with or without a longitudinal flange on each side of shaft or a pair of subapical ventrally directed processes; gonopore apical on posterior surface; basal apodeme short.

Female genitalia with first valvulae transversely striate dorsolaterally. Second valvulae moderately long and narrow, few prominent teeth over distal half of valvulae; sclerotized region at dorsal margin moderately long; dorsal hyaline region present or absent.

DISTRIBUTION. Widespread throughout the Afrotropical region.

REMARKS. Members of this genus can be distinguished by their broad lora which in all but one species extend to the facial margin throughout their length. The species *mimicus* is tentatively included in *Theronopus* but differs from other members of the genus in having the lora not extending to the facial margin, the clypellus slightly narrower apically than basally and the rostrum extending to slightly beyond the hind coxae. In addition, *mimicus* has the fore margin of the head angularly rather than evenly rounded, which is unique for the subfamily.

With the exception of one species (*mitoensis*) the genus can be divided into two groups on the basis of the hind femoral spines and male abdominal apodemes and genitalia. One group, comprising *mopanei*, *spicatus*, *robustus*, *loratus*, *mimicus*, *ohopohoensis* and *aethiopicus*, has the hind femora with apical setal formula 2+1 rather than 2+0, the lora, except in *mimicus* slightly longer than in other species with the dorsal suture of the lora more transverse (see Figs 59, 102), the dorsal abdominal apodemes smaller and more widely spaced, the dorsal transverse region of the male pygophore (Fig. 95) triangular rather than of uniform width and the lateral arms of the male Xth segment narrower in lateral aspect with internal marginal ledges and apices bifurcate rather than produced ventrally (*aethiopicus* male unknown). The species *mitoensis* has the above combination of characters with the exception that the setal formula at the apex of the hind femora is 2+0. This difference and those in *mimicus* make relationships unclear, both within the genus and with other genera.

Females of most species of *Theronopus* cannot be identified with certainty as many are similar in colour and have similar second valvulae. In the present work females are tentatively identified by association with males of similar appearance and from the same localities. Of the females so named, there is some variation in the shape of the second valvulae between the following five species-groups: *harpago* and *angulatus* (Fig. 64); *lobatus* (Fig. 79); *bicornis*, *serratus*, *tsavoensis* and *quadriocellatus* (Fig. 94); *mitoensis* (Fig. 99); *mopanei*, *spicatus*, *robustus*, *mimicus* and *aethiopicus* (Fig. 100).

Key to the species of *Theronopus* (males)

- | | | |
|----|---|---|
| 1 | Aedeagus with a pair of subapical processes | 12 |
| – | Aedeagus without processes | 2 |
| 2 | Aedeagal shaft very long and narrow, strongly curved dorsally and anteriorly
<i>quadriocellatus</i> (Melichar) (p. 237) | |
| – | Aedeagal shaft not as above | 3 |
| 3 | Aedeagal shaft with a pair of serrated posterior flanges (Fig. 69) | <i>serratus</i> (Webb) (p. 235) |
| – | Aedeagal shaft not as above | 4 |
| 4 | Style with an elongate dorsal or medial preapical lobe | 5 |
| – | Style not as above | 7 |
| 5 | Style with preapical lobe dorsal; aedeagal shaft narrow in lateral aspect (Fig. 80)
<i>tanzaniaensis</i> sp. n. (p. 235) | |
| – | Style with preapical lobe medial; aedeagal shaft relatively broad in lateral aspect (Fig. 74) | 6 |
| 6 | Aedeagal shaft with a pair of lateral flanges (Figs 66, 74) | <i>lobatus</i> (Webb) (p. 237) |
| – | Aedeagal shaft not as above | <i>citrinus</i> (Melichar) (p. 237) |
| 7 | Style apex bifurcate (Fig. 70) | <i>bifidus</i> sp. n. (p. 235) |
| – | Style apex not bifurcate | 8 |
| 8 | Style apex foot-like (Fig. 86) | <i>alargus</i> sp. n. (p. 236) |
| – | Style apex acute | 9 |
| 9 | Style with ventral margin serrate subapically (Fig. 105) | <i>ohopohoensis</i> (Linnavuori) (p. 240) |
| – | Style not as above | 10 |
| 10 | Style apex straight (Fig. 67) | <i>tsavoensis</i> sp. n. (p. 234) |
| – | Style apex curved medially | 11 |
| 11 | Aedeagus with socle region broad in lateral aspect (Fig. 60) | <i>angulatus</i> (Webb) (p. 233) |
| – | Aedeagus with socle region narrow in lateral aspect (Fig. 63) <i>harpago</i> (Heller & Linnavuori) (p. 233) | |
| 12 | Lora extending to facial margin throughout length; vertex evenly rounded to face | 13 |
| – | Lora not extending to facial margin; vertex angularly rounded to face | <i>mimicus</i> (Webb) (p. 240) |
| 13 | Aedeagal processes short (Fig. 98) | 14 |
| – | Aedeagal processes long (Fig. 88) | <i>bicornis</i> sp. n. (p. 237) |
| 14 | Aedeagal shaft with anterior margin evenly curved dorsad in lateral aspect | 15 |
| – | Aedeagal shaft with anterior margin triangularly produced subapically in lateral aspect | 17 |
| 15 | Style with a ventral subapical process | <i>spicatus</i> (Webb) (p. 239) |
| – | Style not as above | 16 |
| 16 | Aedeagal shaft abruptly narrowed subapically (Fig. 98) | <i>mtitoensis</i> sp. n. (p. 238) |
| – | Aedeagal shaft not as above | <i>mopanei</i> (Webb) (p. 238) |
| 17 | Anterior margin of aedeagus above processes strongly curved dorsad | <i>loratus</i> (Webb) (p. 239) |
| – | Aedeagus not as above | <i>robustus</i> (Webb) (p. 239) |

***Theronopus angulatus* (Webb) comb. n.**

(Figs 59–61)

Idiocerus angulatus Webb, 1975: 181, figs 93–103. Holotype ♂, KENYA (BMNH) [examined].

MATERIAL EXAMINED

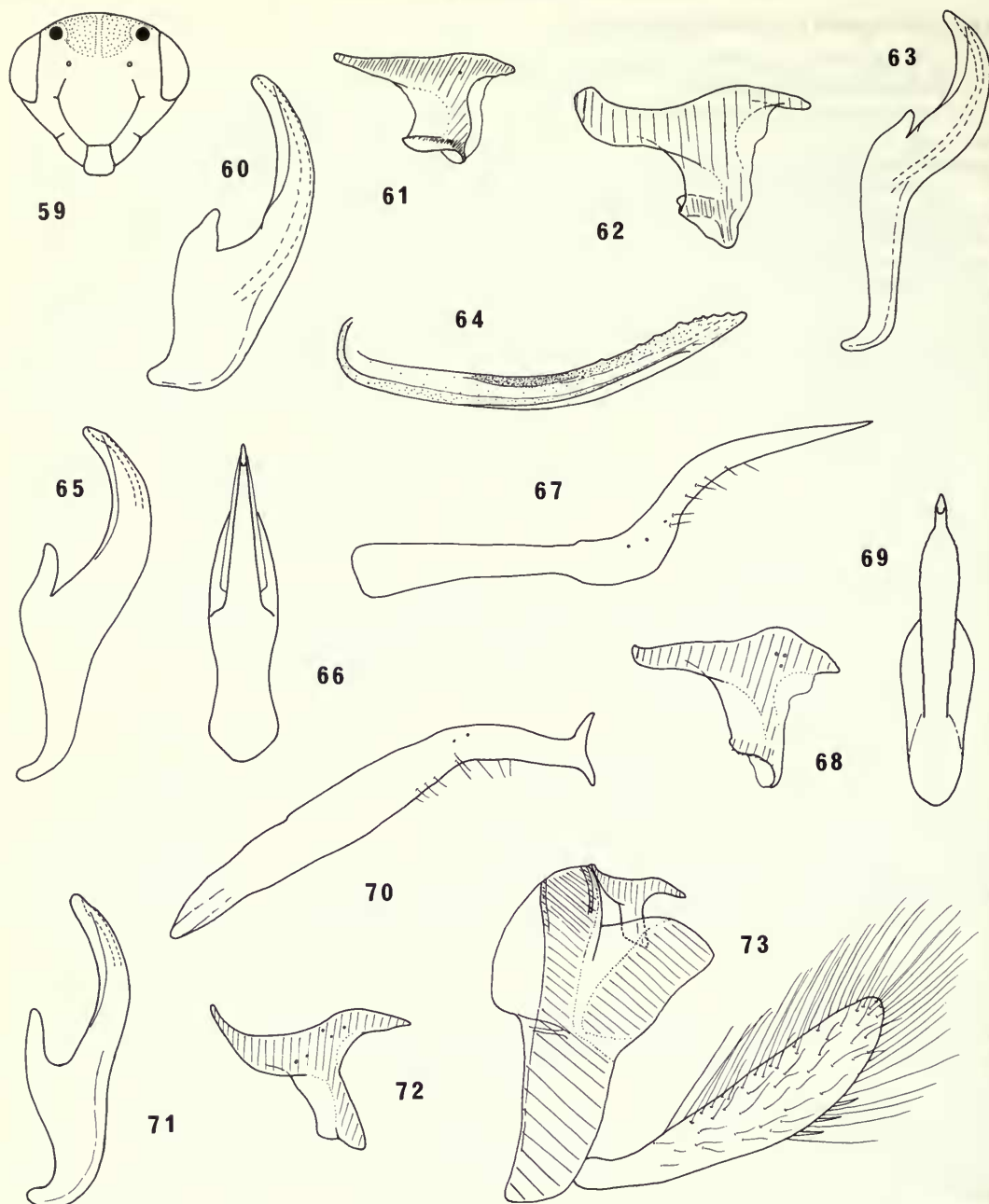
Ethiopia: 1 ♂, Gemu-Goya Prov., 30 km S. of Turmi (MRAC). **Kenya:** 9 ♂, 10 ♀ (type-series), Wajir (BMNH; 1 ♂, 1 ♀, PPRI).***Theronopus harpago* (Heller & Linnavuori) comb. n.**

(Figs 62–64)

Idiocerus harpago Heller & Linnavuori, 1968: 23, figs 5–11; Webb, 1975: 183, figs 104–112. Holotype ♂, ETHIOPIA (SMN) [examined].

MATERIAL EXAMINED

Ethiopia: 1 ♂ (holotype), 1 ♀ (allotype), Awash, 960 m (SMN); 2 ♂ (paratypes), Aouash, 900 m (RL).



Figs 59–73 *Theronopus* species. 59–61, *T. angulatus*. (59) face; (60) aedeagus; (61) male Xth segment. 62–64, *T. harpago*. (62) male Xth segment; (63) aedeagus; (64) second valvulae. 65–68, *T. tsavoensis*. (65, 66) aedeagus; (67) style; (68) male Xth segment. 69, *T. serratus*, aedeagus. 70–73, *T. bifidus*. (70) style; (71) aedeagus; (72) male Xth segment; (73) male genital capsule.

Theronopus tsavoensis sp. n.

(Figs 65–68)

Length: ♂, 4.5 mm; ♀, 4.6 mm.

Pale yellow, head and thorax mottled with brown; vertex with a small dark brown spot near each eye;

scutellum with a pair of dark brown basal triangles. Forewing brownish hyaline with whitish patches including two large patches from corium, one near midlength of wing and one near apex of wing; veins concolorous with wing.

Hind femur with apical setal formula 2+0.

Male basal abdominal apodemes with dorsal pair broad, ventral pair reduced.

Male genitalia with dorsal transverse region of pygophore of uniform width. Tenth segment loosely attached to pygophore, apices of lateral arms produced ventrally. Style evenly tapered over distal one-third to acute apex. Aedeagus with shaft moderately long, evenly tapered to narrowly rounded apex, posterior margin strongly compressed, pair of lateral flanges from near base of anterior margin to near apex of shaft.

Female genitalia with second valvulae as in *bicornis* (Fig. 94).

MATERIAL EXAMINED

Holotype ♂, **Kenya**: Tsavo Park, Kitani Lodge, 22.i.1968 (*Krombein & Spangler*) (USNM).

Paratypes. **Kenya**: 1 ♂, 2 ♀, same data as holotype (BMNH; USNM); 1 ♂, Mito Andei, xii.1950 (USNM).

REMARKS. This species is similar to *harpago*, but can be distinguished by the pale patches on the forewings and the straighter apical process of the style.

Theronopus serratus (Webb) comb. n.

(Fig. 69)

Idiocerus serratus Webb, 1975: 176, figs 58–68. Holotype ♂, KENYA (BMNH) [examined].

MATERIAL EXAMINED

Kenya: 3 ♂, 1 ♀ (types-series), Wajir (BMNH).

Theronopus tanzaniaensis sp. n.

(Figs 80–83)

Length: ♂, 5.0 mm.

Yellow; vertex with a dark brown spot near each eye, scutellum with a pair of dark brown basal triangles.

Hind femur with apical setal formula 2+0.

Male basal abdominal apodemes with dorsal pair broad, ventral pair reduced.

Male genitalia with dorsal transverse region of pygophore of uniform width. Tenth segment loosely attached to pygophore, lateral arms produced ventrally. Style with an elongate dorsal preapical lobe; apical process angled medially at midlength, tapered to acute apex. Aedeagus with shaft fairly short, without lateral flanges; socle region long.

MATERIAL EXAMINED

Holotype ♂, **Tanzania**: Tabora, v.1965 (BMNH).

REMARKS. This species can be distinguished by the dorsal preapical lobe of the style and the shape of the aedeagus, as noted above.

Theronopus bifidus sp. n.

(Figs 70–73)

Length: ♂, 4.5 mm.

Head and thorax pale yellow, heavily mottled with brown, vertex with a dark brown spot near each eye, scutellum with a pair of dark brown basal triangles. Forewing brownish hyaline, veins darker brown with a whitish patch on each anal vein, two on cubital vein and one at base of inner branch of medial vein.

Hind femur with apical setal formula 2+0.

Male basal abdominal apodemes with dorsal pair broad, ventral pair reduced.

Male genitalia with dorsal transverse region of pygophore of uniform width. Lateral arms of Xth segment with apices produced ventrally. Style with apex bifurcate. Aedeagus similar to that of *tsavoensis* but shaft slightly narrower in lateral aspect.

MATERIAL EXAMINED

Holotype ♂, **South West Africa**: Otjivaronga, Abachaus, xii.1949 (*G. Hobohm*) (TM).

REMARKS. This species can be distinguished by its apically bifurcate styles.

Theronopus alargus sp. n.

(Figs 84-87)

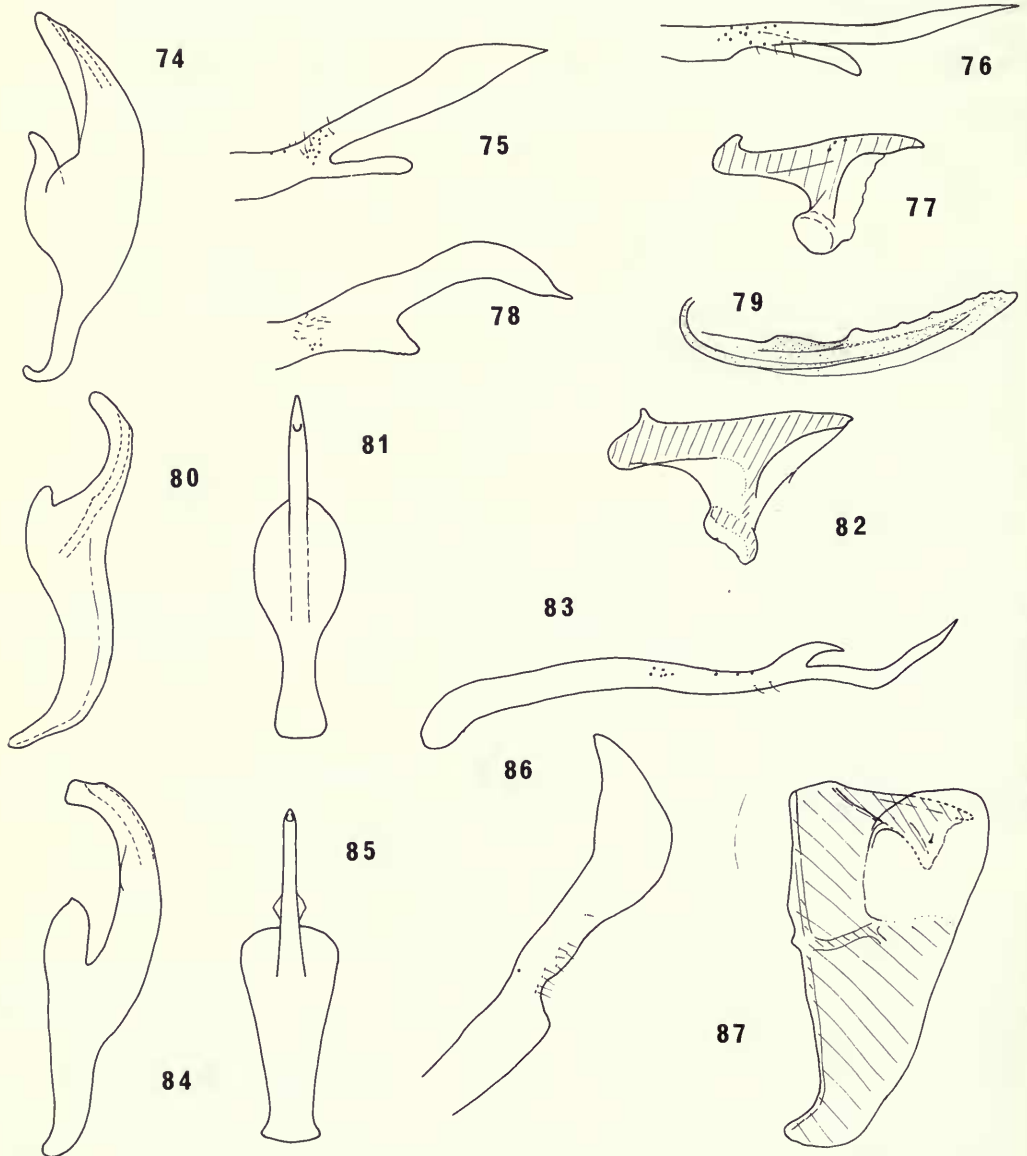
Length: ♂, 5.0-5.4 mm, mean 5.2 mm.

Head and thorax pale yellow, finely mottled with pale brown forming numerous small pale yellow spots, vertex with a brown spot near each eye, scutellum with a pair of pale brown basal triangles.

Hind femur with apical setal formula 2+0.

Male basal abdominal apodemes with dorsal pair broad, ventral pair reduced.

Male genitalia with dorsal transverse region of pygophore fused to Xth segment (Fig. 87). Lateral arms of Xth segment with apices produced ventrally. Style with apex upturned, foot-like. Aedeagus with shaft narrow in lateral aspect, apex truncate, a pair of short triangular-shaped flanges at midlength of shaft.



Figs 74-87 *Theronopus* species. 74-79, *T. lobatus*. (74) aedeagus; (75) apex of left style, ventral view, Zimbabwe; (76), same, lateral view; (77) male Xth segment; (78) apex of left style, ventral view, Angola; (79) second valvulae. 80-83, *T. tanzaniaensis*. (80, 81) aedeagus; (82) male Xth segment; (83) style. 84-87, *T. alargus*. (84, 85) aedeagus; (86) style; (87) male pygophore and Xth segment.

MATERIAL EXAMINED

Holotype ♂, **South West Africa**: Kaross (SAM).

Paratype. 1 ♂, iii.1923 (NCP).

REMARKS. This species can be distinguished by the fused dorsal transverse region of the pygophore with the Xth segment and by the shape of the aedeagus, as noted above.

***Theronopus lobatus* (Webb) comb. n.**

(Figs 74–79)

Idiocerus lobatus Webb, 1975: 179, figs 80–83, 86–92. Holotype ♂, ZIMBABWE (BMNH) [examined].

MATERIAL EXAMINED

Zimbabwe: 1 ♂ (holotype), Bulawayo (BMNH); 1 ♂, 1 ♀, Victoria Falls Nat'l Park (USNM). **Angola**: 1 ♂, 5 km E. Capangombe, 15°05'S, 13°19'E (WSM). **South Africa**: 1 ♂, Zebediela (US); 1 ♀, Beit Bridge (TM); 3 ♂, 3 ♀, Olifants River, Kurtsteyn Bridge (NCP); 1 ♂, Letaba Est. (US).

REMARKS. There is some variation in the shape of the style in this species (see Figs 75, 78).

***Theronopus citrinus* (Melichar) comb. n.**

Idiocerus citrinus Melichar, 1914: 2; Webb, 1975: 181, figs 84, 85. Holotype ♂, ZAIRE (MM) [examined].

MATERIAL EXAMINED

Holotype ♂, **Zaire**: Bumbuli (MM).

***Theronopus quadriocellatus* (Melichar) comb. n.**

Pachynus quadriocellatus Melichar, 1908: 11. Lectotype ♂, TANZANIA (MM), designated by Webb, 1975: 179 [examined].

Idiocerus quadriocellatus (Melichar) Webb, 1975: 176, figs 69–79.

MATERIAL EXAMINED

Tanzania: 1 ♂ (lectotype), 3 ♀ (paralectotypes), Usambara (MM); 1 ♂ (? paralectotype), Usambara (RL). **Kenya**: 1 ♂, 1 ♀, Namanga (BMNH); 2 ♂, Namanga, S. slope of Ol Doinya Orok, 1650 m, on *Commiphora africana* (BMNH).

***Theronopus bicornis* sp. n.**

(Figs 88–94)

Length: ♂, 4.1–4.5 mm, mean 4.3 mm; ♀, 4.6–4.8 mm, mean 4.7 mm.

Yellow to stramineous. Vertex with a dark brown spot near each eye. Scutellum with a dark brown spot in each basal angle.

Hind femur with apical setal formula 2+0.

Male basal abdominal apodemes with dorsal pair broad, ventral pair reduced.

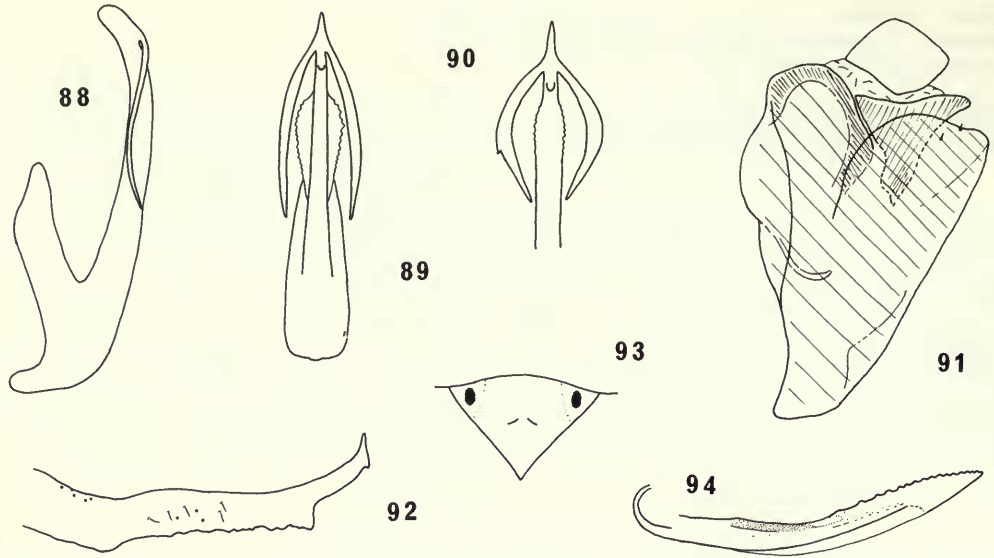
Male genitalia with dorsal transverse region of pygophore of uniform width. Tenth segment loosely attached to pygophore, anterior transverse region absent, lateral arms with apices produced ventrally. Style with apical process serrate basally on ventral margin, abruptly narrowed subapically. Aedeagus with shaft elongate in lateral aspect, a pair of elongate ventrally directed subapical processes arising from posterior margin, and a pair of subapical serrated longitudinal flanges situated towards either anterior or posterior margin.

Female genitalia with second valvulae as in Fig. 94.

MATERIAL EXAMINED

Holotype ♂, **South Africa**: Transvaal, Dendron, at light, 26.iii.1969 (NCP).

Paratypes. **Botswana**: 1 ♂, 2 ♀, Makarikari Pans, 20°08'S, 25°32'E, 22–23.iv.1972, on *Colophospermum mopane* (BMNH). **South West Africa**: 1 ♂, Tsumeb, vii.1974 (*J. G. Theron*) (US); 1 ♂, Gobiswater Fm, 19 km N. Grootfontein, at light, 5.iv.1972 (BMNH). **South Africa**: 10 ♂, data as holotype but 15.i, 29.ii, 22.xi.1968–69 (NCP, BMNH); 1 ♂, Mkuzi, at light, 25.i.1981 (*J. G. Theron*) (US).



Figs 88–94 *Theronopus bicornis*. 88, 89, aedeagus; 90, apex of aedeagus; 91, male pygophore and Xth segment; 92, apex of left style; 93, scutellum; 94, second valvulae.

REMARKS. This species can be distinguished by its elongate aedeagal processes, in which there is some variation in the length and curvature, and in the size of the lateral aedeagal flanges (Figs 89, 90).

Recorded on *Colophospermum mopane* in Botswana.

***Theronopus mtitoensis* sp. n.**

(Figs 95–101)

Length: ♂, 5.1 mm; ♀, 5.4 mm.

Head and thorax pale yellow heavily mottled with brown; vertex with a dark brown spot near each eye; scutellum with a pair of dark brown basal triangles. Forewing hyaline, veins brown with small whitish spots.

Hind femur with apical setal formulae 2+0.

Male basal abdominal apodemes with dorsal pair fairly small, widely spaced, ventral pair elongate.

Male genitalia with dorsal transverse region of pygophore triangular-shaped (arrowed in Fig. 95). Tenth segment solidly attached to pygophore, lateral arms with internal marginal ledges, apices bifurcate. Style with apical process tapered to acute upturned apex, ventral margin serrate subapically. Aedeagus with shaft strongly curved dorsally, posterior margin abruptly narrowed subapically in lateral aspect.

Female genitalia with second valvulae as in Fig. 99.

MATERIAL EXAMINED

Holotype ♂, Kenya: Mtito Andei, 16.i.1948 (*N. A. Weber*) (AMNH).

Paratypes. Kenya: 1 ♀, same data as holotype (BMNH); 1 ♂, Makindu, Mac Arthur, iv.1937 (BMNH).

REMARKS. This species can be distinguished by the small whitish spots on the veins of the forewings and the narrow apical region of the aedeagus. Its relationship to other members of the genus is unclear; although the male genitalia are similar to those of *mopanei* and related species the setal formula at the apex of the hind femur is 2+0 rather than 2+1 (see generic remarks).

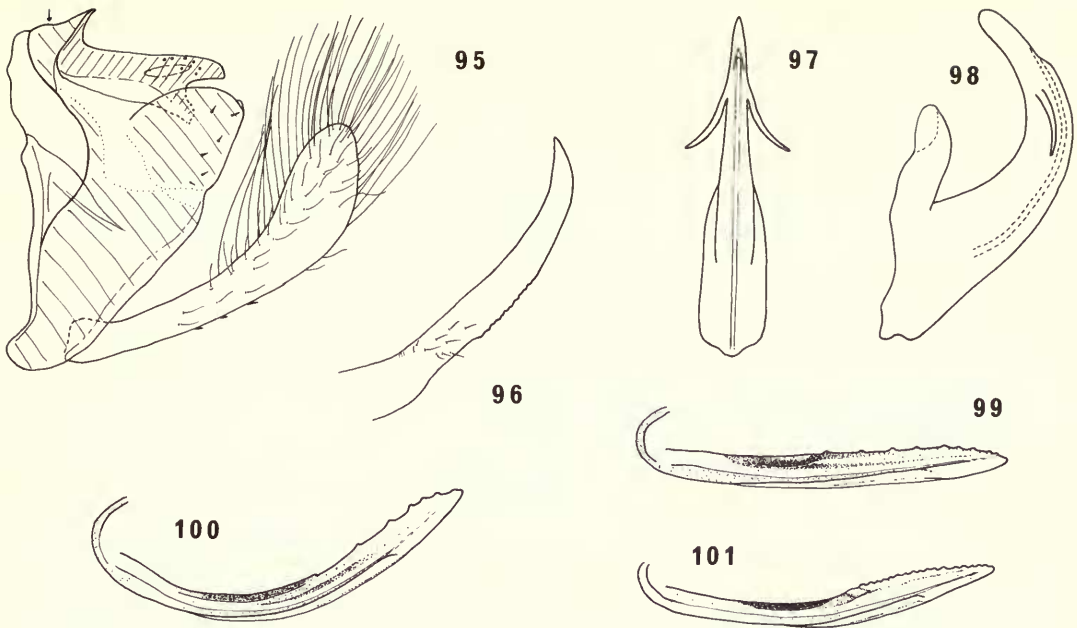
***Theronopus mopanei* (Webb) comb. n.**

(Fig. 100)

Idioscopus mopanei Webb, 1976: 323, figs 184–195. Holotype ♂, BOTSWANA (BMNH) [examined].

MATERIAL EXAMINED

Rhodesia: 1 ♂, 1 ♀, Victoria Fall Nat. Pk (USNM). Botswana: 3 ♂, 1 ♀ (type-series), Makarikari Pans,



Figs 95–101 *Theronopus* species. 95–99, *T. mitoensis*. (95) male genital capsule; (96) apex of left style; (97, 98) aedeagus; (99) second valvulae. 100, *T. mopanei*, second valvulae. 101, *T. mimicus*, second valvulae.

20°08'S, 25°32'E, on *Colophospermum mopane* (BMNH). **Angola:** 2 ♂, 1 ♀, Capangombe (WSM). **South West Africa:** 1 ♂, Onguma Fm, 88 km NW. Tsumeb, on *Diospyros mespiliformis* (BMNH). **South Africa:** 19 ♂, 2 ♀, Heidelberg, Grootvadersispis; 1 ♂, 1 ♀, Messina (all US); 1 ♂, Kruger Nat. Pk; 4 ♂, 6 ♀, Dendron; 1 ♂, 2 ♀, Olifants River, Kurt Steyn Bridge (all NCP).

REMARKS. This species has been recorded on *Colophospermum mopane* in Botswana and *Diospyros mespiliformis* in South West Africa.

***Theronopus spicatus* (Webb) comb. n.**

Idioscopus spicatus Webb, 1976: 325, figs 196–198. Holotype ♂, NIGERIA (BMNH) [examined].

MATERIAL EXAMINED

Gambia: 1 ♂, 4 ♀, 1 km E. Tendebe Camp, nr R. Gambia (MZE). **Nigeria:** 1 ♂, 1 ♀, 2 ex. (type-series), Zaria, Samaru (BMNH). **Niger:** 7 ♂, 6 ♀, Niamey (RL). **Zaire:** 1 ♂, Elisabethville (IRSNB).

REMARKS. This species is tentatively regarded as distinct from *mopanei*, having a more northerly distribution and a subapical ventral tooth on the style.

***Theronopus robustus* (Webb) comb. n.**

Idioscopus robustus Webb, 1976: 326, figs 199–205. Holotype ♂, SOUTH AFRICA (BMNH) [examined].

MATERIAL EXAMINED

Angola: 1 ♂, 1 ♀, Rocados, 1080 m (BMNH). **South Africa:** 3 ♂ (part of type-series), 1 ♀, Port St John (BMNH; US); 1 ♂ (paratype), 1 ♀, Natal, Weenen (BMNH).

***Theronopus loratus* (Webb) comb. n.**

Idioscopus loratus Webb, 1976: 327, figs 206–210. Holotype ♂, BOTSWANA (BMNH) [examined].

MATERIAL EXAMINED

Botswana: 1 ♂ (holotype), Kuke Pan, 20°59'S; 22°25'E (BMNH). **South West Africa:** 1 ♂, 1 ♀, Abachaus, Otjwarongo Dist. (TM). **South Africa:** 4 ♂, 1 ♀ Messina (US).

***Theronopus mimicus* (Webb) comb. n.**

(Fig. 101)

Idioscopus mimicus Webb, 1976: 327, figs 211–221. Holotype ♂, SOUTH WEST AFRICA (BMNH) [examined].

MATERIAL EXAMINED

South West Africa: 2 ♂, 2 ♀ (type-series), Kombat (BMNH); 4 ♂, 3 ♀, Abachaus, Otjivarongo (WSM; RL); 1 ♀, Abachaus, Damaraland; 1 ♀, Abachaus (both TM); 1 ♀, Tsumeb, Otjikotoberg (WSM).***Theronopus aethiopicus* (Heller & Linnavuori) comb. n.***Idiocerus aethiopicus* Heller & Linnavuori, 1968: 24, figs 12–14. Holotype ♀, ETHIOPIA (SMNS) [examined].

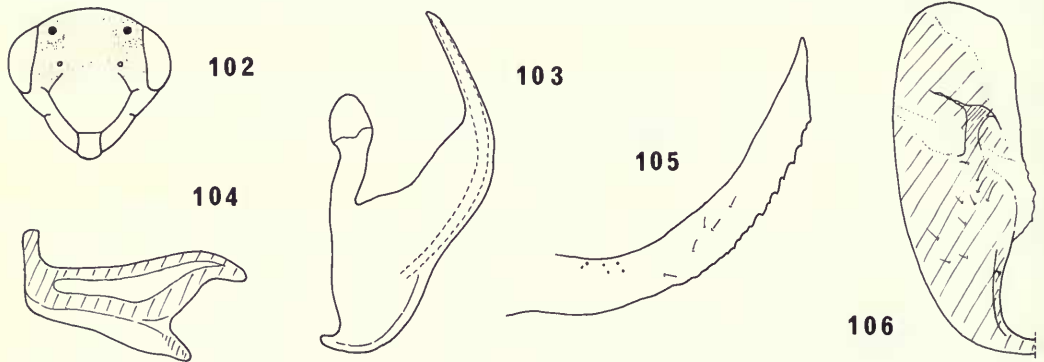
MATERIAL EXAMINED

Ethiopia: 1 ♀ (holotype), Kalaffo (Ogaden) (SMNS).***Theronopus ohopohoensis* (Linnavuori) comb. n.**

(Figs 102–106)

Idiocerus ohopohoensis Linnavuori, 1961: 455, fig. 1D. Holotype ♂, SOUTH WEST AFRICA (MZE) [examined].

MATERIAL EXAMINED

South West Africa: 1 ♂ (holotype), Kaokoveld, Anabib (Orupembe), 33 m W. Ohopoho (MZE).**Figs 102–106** *Theronopus ohopohoensis*. 102, face; 103, aedeagus; 104, male Xth segment; 105, apex of left style; 106, left side of male pygophore, posterior view.**PANDACERUS gen. n.**Type-species: *Idioscopus sinuatus* Webb.

Pale to brownish yellow; with or without a spot on vertex near each eye and a pair of basal triangles on scutellum, dark brown.

Head 1.12–1.22 times as wide as pronotum, shagreened. Vertex 4.0–5.3 times as wide as medial length; slightly shorter to slightly longer medially than length next to eyes. Face 1.15 times as wide as long, shagreened; eyes moderately large, inner margin of eye 0.83 times perpendicular length of face below eyes; interocellar width 2.4 times ocellular width; laterofrontal sutures extended approximately one-half distance to corresponding ocellus, more or less straight; lora separated from facial margin throughout length; clypellus with sides concave, apex wider than base; rostrum extended to near hind coxae; male antenna expanded apically. Pronotum shagreened. Scutellum slightly shorter than combined length of pronotum and vertex, shagreened. Forewing with first subapical cell open, second closed, third present. Hind femur with apical setal formula 2+1; hind tibia flattened with 11–19 spines in row 1, six to seven spines in row 2 and six to eight spines in row 3, distal spines of row 2 without a basal process.

Male abdomen with dorsal and ventral basal apodemes lobe-like.

Male genitalia with Xth segment loosely attached to pygophore, lateral arms with apices extended ventrally. Subgenital plates narrowly spatulate in lateral aspect or sometimes tapered distally; ventral and or dorsal margin sometimes strongly sinuate; numerous long fine marginal setae distally. Connective Y-shaped with a dorsomedial keel. Style with apical process expanded apically in lateral aspect; preapical lobe lateral with relatively long fine setae on inner surface. Aedeagus with shaft curved dorsally, elongate, cylindrical, tapered to apex, with or without a pair of subapical ventrally directed processes, gonopore subapical on posterior surface; basal apodeme moderately long to long.

Female genitalia with first valvulae transversely striate dorsolaterally. Second valvulae moderately long and narrow to short and broad in lateral aspect; several to numerous prominent teeth over distal one-third to two-thirds of valvulae; sclerotized region basad of teeth situated at dorsal margin; dorsal hyaline region present.

DISTRIBUTION. Ethiopia, South Africa, Seychelles.

REMARKS. This genus can be distinguished by the following combination of characters: male antennae expanded apically, styles with a lateral preapical lobe and apical region expanded. The species *scotti*, from the Seychelles, is tentatively included in this genus by the above characters but has the lora extended or nearly extended to the facial margin over their ventral third and the vertex transversely striate rather than shagreened.

Key to the species of *Pandacerus*

1	Vertex with a brown spot near each eye	2
–	Vertex not as above	7
2	Male	3
–	Female	5
3	Aedeagal processes long	4
–	Aedeagal process short	<i>flavicosus</i> (Webb) (p. 241)
4	Subgenital plate with dorsal and ventral margins strongly sinuate	<i>sinuatus</i> (Webb) (p. 241)
–	Subgenital plate with dorsal and ventral margins weakly sinuate	<i>aethiopicus</i> (Webb) (p. 242)
5	Second valvulae short and broad (Fig. 113)	6
–	Second valvulae moderately long and broad (Fig. 112)	<i>aethiopicus</i> (Webb) (p. 242)
6	Face with a brown transverse band at level of ocelli	<i>sinuatus</i> (Webb) (p. 241)
–	Face not as above, with a pair of brown spots at level of antenna	<i>flavicosus</i> (Webb) (p. 241)
7	Vertex shagreened. Aedeagus with processes	<i>capeneri</i> sp. n. (p. 242)
–	Vertex transversely striate. Aedeagus without processes. (Seychelles)	<i>scotti</i> (Distant) (p. 241)

Pandacerus scotti (Distant) comb. n.

Idiocerus scotti Distant, 1917: 307. Lectotype ♂, SEYCHELLES (BMNH), designated by Webb, 1976: 297 [examined].

Idioscopus scotti (Distant) Webb, 1976: 296, figs 1–13.

MATERIAL EXAMINED

Seychelles: 3 ♂, 4 ♀ (type-series), Silhouette (BMNH); 2 ♀ (no further data) (BMNH).

Pandacerus sinuatus (Webb) comb. n.

(Fig. 113)

Idioscopus sinuatus Webb, 1976: 302, figs 38–47. Holotype ♂, SOUTH AFRICA (BMNH) [examined].

MATERIAL EXAMINED

South Africa: 21 ♂, 19 ♀, Katberg; 1 ♂, Swellendam Distr., Grootvaterbosch, nr Heidelberg; 1 ♂, French Hoek, 64 km from Cape Town (all type-series) (BMNH; 1 ♂, 1 ♀ PPRI).

Pandacerus flavicosus (Webb) comb. n.

Idioscopus flavicosta Webb, 1976: 299, figs 27–37. Holotype ♂, SOUTH AFRICA (BMNH) [examined].

MATERIAL EXAMINED

South Africa: 2 ♂, 12 ♀ (type-series), Katberg (BMNH); 1 ♂, Rustenburg; 1 ♂, 3 ♀, Rosslyn, Tul.; 1 ♂, 1 ♀, East London, Gonubie; 2 ♀, Mooirivier (all US); 1 ♂, Natal (RL).

***Pandacerus aethiopicus* (Webb) comb. n.**

(Fig. 112)

Idioscopus aethiopicus Webb, 1976: 299, figs 14–26. Holotype ♂, ETHIOPIA (BMNH) [examined].

MATERIAL EXAMINED

Ethiopia: 32 ♂, 33 ♀ (type-series) Djem-Djem Forest (BMNH; 1 ♂, 1 ♀ PPRI).***Pandacerus capeneri* sp. n.**

(Figs 107–111)

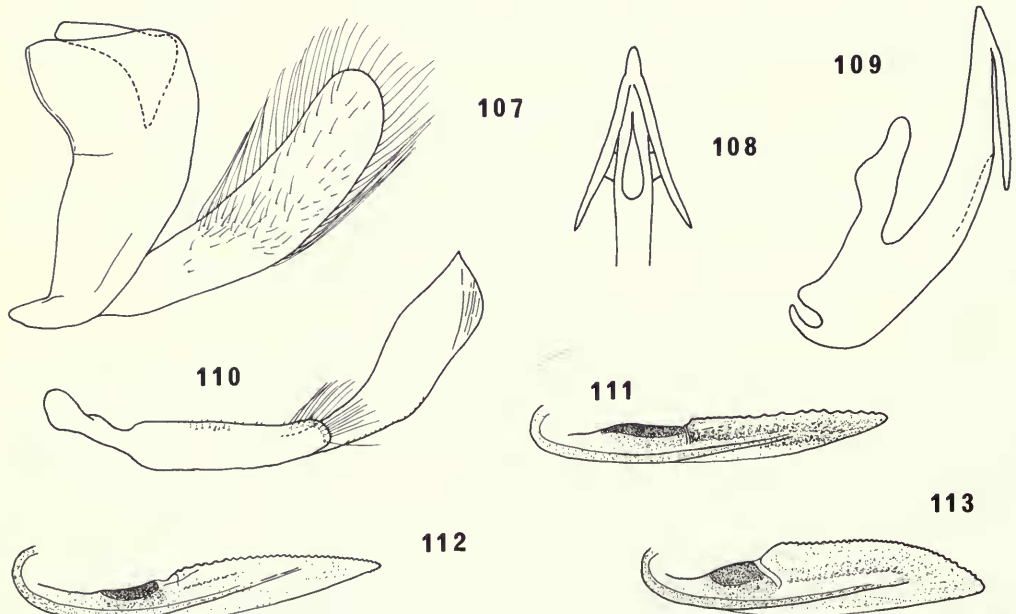
Length: ♂, 4.4 mm; ♀, 5.0 mm.

Head and thorax yellow to brownish yellow. Forewing brownish hyaline, veins concolorous with wing or whitish; midlength of wing adjacent to costal margin with a brown patch.

Male genitalia with subgenital plates narrowly spatulate in lateral aspect, dorsal and ventral margins not noticeably sinuate. Styles with apical process expanded distally in lateral aspect, ventral margin crenulate basally. Shaft of aedeagus with a pair of subapical processes, extended to slightly beyond midlength of shaft; basal apodeme of aedeagus moderately long.

Femalae genitalia with second valvulae moderately long and narrow; several teeth over slightly more than distal half of valvulae.

MATERIAL EXAMINED

Holotype ♂, **South Africa:** Untentweni, 14.x.1969 (*A. L. Capener*) (US).Paratypes. **South Africa:** 3 ♂, 4 ♀, same data as holotype (US; BMNH); 1 ♀, Eshowe, 6–31.v.1926 (*R. E. Turner*) (BMNH).**REMARKS.** This species is similar to *scotti* in the shape of the subgenital plates and styles and in lacking a pair of brown spots on the vertex, but differs in having the vertex shagreened and a pair of subapical processes on the aedeagus as in other members of the genus.

Figs 107–113 *Pandacerus* species. 107–111, *P. capeneri*. (107) male genital capsule; (108) apex of aedeagus; (109) aedeagus; (110) style; (111) second valvulae. 112, *P. aethiopicus*, second valvulae. 113, *P. sinuatus*, second valvulae.

PRETIOSCUS gen. n.

Type-species: *Idioscopus clavosignatus* Webb.

Yellow, sordid yellow or stramineous, rarely nearly entirely dark brown, sometimes tinged with green or orange or with a spot on vertex near each eye and a pair of basal triangles of scutellum, dark brown, or a pair of dark brown anterior spots on pronotum; with or without a spot near each ocellus in female; male antenna dark brown medially or distally.

Head 1·13 times as wide as pronotum. Vertex 3·7–5·0 times as wide as medial length; medial length equal to or longer than length next to eyes; shagreened or finely transversely striate. Face 1·08–1·15 times as wide as long; shagreened; eye moderately large, inner margin of eye 0·90 times perpendicular length of face below eyes; interocellar width 2·5 times ocellular width; laterofrontal sutures extended approximately one-half distance to corresponding ocellus, more or less straight; lora separated from facial margin throughout length; clypellus with sides concave, apex wider than base; rostrum extended to mid coxae; male antenna sometimes expanded apically. Pronotum shagreened. Scutellum slightly shorter to slightly longer than pronotum, shagreened. Forewing with first and second subapical cells closed, third subapical cell present. Hind femur with apical setal formula 2+1; hind tibia flattened, with 12–17 spines in row 1, 6–7 spines in row 2 and 5–7 spines in row 3, distal spines of row 2 without a basal process.

Male dorsal and ventral basal abdominal apodemes lobe-like, dorsal pair sometimes reduced.

Male genitalia with Xth segment loosely attached to pygophore; apices of Xth segment broad or narrow in lateral aspect. Subgenital plates elongate, spatulate in lateral aspect, numerous long fine marginal setae distally. Connective Y-shaped with dorsomedial keel. Styles with apical process elongate, curved dorsally and tapered to apex, ventral margin crenulate subapically; preapical lobe lateral, few relatively long fine setae on medial surface. Aedeagus with shaft elongate, cylindrical, curved dorsally and tapered to apex, with or without pair of apical or subapical processes, gonopore apical on posterior surface; basal apodeme elongate.

Female genitalia with first valvulae transversely striate dorsolaterally. Second valvulae moderately long and narrow or elongate; few prominent teeth distally with or without several fine, more basal teeth; sclerotized region basad of teeth situated at or slightly below dorsal margin; dorsal hyaline region present or absent.

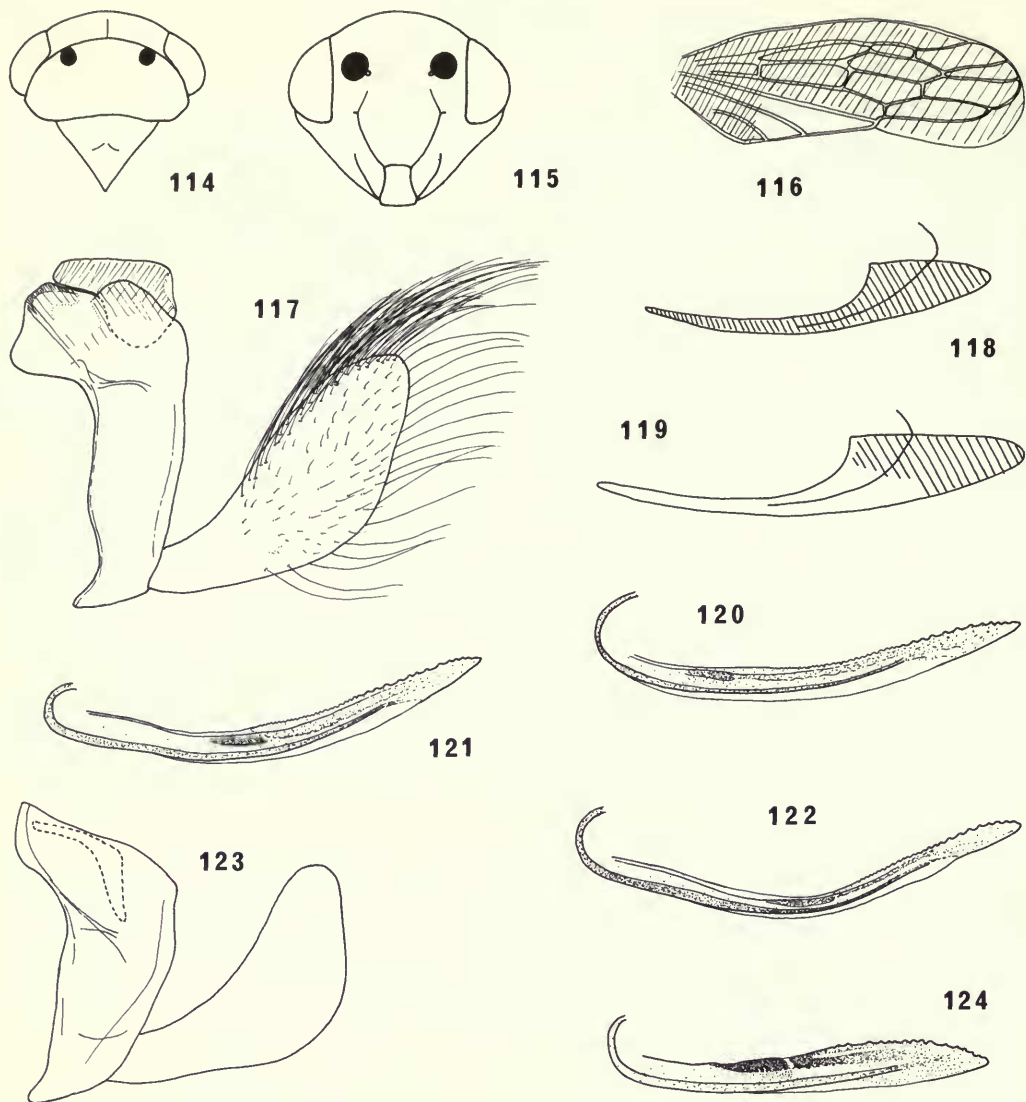
DISTRIBUTION. Tropical Africa.

REMARKS. This genus can be distinguished by the following combination of characters: forewings with the first subapical cell closed and the male antennae marked with dark brown medially or distally, and sometimes expanded apically. The genus can be divided into the *flavosignatus*-group and the *ghanaensis*-group (see characters given in key, couplet 1). The former group can be subdivided into the *flavosignatus* species complex and the *nigeriensis* species complex (see characters given in key, couplet 2), both complexes having a pair of brown anterior spots on the pronotum in some species (see couplets 3 and 9 in key).

Key to the species of *Pretioscopus*

Females of *flavocephalus*, *binotatus*, *caprilei*, *macrosetus*, *longicornis* and *pilosus* are unknown.

- 1 Vertex without a brown spot near each eye; scutellum without pair of brown basal triangles; pronotum with or without a pair of brown anterior spots; face (female) sometimes with a brown spot near each ocellus. Male Xth segment with apices broad in lateral aspect (Fig. 117); aedeagus with or without a pair of apical processes. Second valvulae of ovipositor with the more anterior teeth fine, dorsal sclerotized region basad of teeth situated below dorsal margin (Figs 120–122) *flavosignatus*-group 2
- Vertex with a brown spot near each eye; scutellum with a pair of brown basal triangles; pronotum and face not marked as above. Male Xth segment with apices narrow in lateral aspect (Fig. 123); aedeagus with a pair of subapical processes. Second valvulae of ovipositor without fine anterior teeth, dorsal sclerotized region basad of teeth situated at dorsal margin (Fig. 124) *ghanaensis*-group 13
- 2 Vertex finely and transversely striate. Female without a dark brown spot on ocellular region. Male basal dorsal abdominal apodemes reduced. Aedeagus with processes. Second valvulae with dorsal sclerotized region basad of teeth situated anteriorly (Fig. 120) *flavosignatus*-complex 3
- Vertex shagreened. Female with a dark brown spot on ocellular region (Fig. 115). Male basal



Figs 114–124 *Pretioscopus* species. 114, *P. africanus*, face. 115, *P. viridiclavus*, face. 116, *P. flavosignatus*, forewing. 117, *P. medleri*, male genital capsule. 118, *P. linnavuorii*, third valvulae. 119, *P. viridiclavus*, third valvulae. 120, *P. africanus*, second valvulae. 121, *P. quadrimaculatus*, second valvulae. 122, *P. medleri*, second valvulae. 123, *P. pilosus*, male pygophore, Xth segment and subgenital plate (setae omitted). 124, *P. ghanaensis*, second valvulae.

dorsal abdominal apodemes prominent. Aedeagus without processes. Second valvulae with sclerotized region basad of teeth situated near mid-length of valvulae (Figs 121, 122)

	<i>nigeriensis</i>-complex	9
3	Pronotum with a pair of dark brown anterior spots (Fig. 114)	4
–	Pronotum not as above (females unknown)	7
4	Mainly dark brown, forewing with distal half of clavus yellow (Fig. 116)	
	<i>flavosignatus</i> (Webb) (p. 245)	
–	Mainly yellow (females unknown)	5
5	Subgenital plates with a group of moderately long stout setae apically ..	<i>macrosetus</i> (Webb) (p. 245)
–	Subgenital plates not as above	6
6	Aedeagus processes short	<i>africanus</i> (Webb) (p. 246)

- Aedeagal processes moderately long..... *binotatus* (Webb) (p. 246)
- 7 Aedeagal shaft and processes elongate (Fig. 127) *longicornis* sp. n. (p. 245)
- Aedeagus not as above 8
- 8 Subgenital plates with a group of fairly short marginal setae dorsoapically
flavocephalus (Webb) (p. 246)
- Subgenital plates not as above *caprilei* (Webb) (p. 246)
- 9 Pronotum and face with a pair of dark brown spots (Fig 114, 115). Second valvulae as in Fig. 121. Third valvulae dark brown apically (Fig. 119) *quadrimaculatus* (Webb) (p. 246)
- Pronotum with or without a pair of dark brown spots; face without a pair of dark brown spots or if present (female) second valvulae as in Fig. 122 and third valvulae entirely dark brown (Fig. 118) 10
- 10 Pronotum with a pair of dark brown spots (Fig. 114)..... 11
- Pronotum not as above 12
- 11 Aedeagus with gonopore short, situated at apex of shaft. Subgenital plates narrow apically (Fig. 117). Female 3·6 mm *medleri* (Webb) (p. 247)
- Aedeagus with gonopore elongate, extended to near midlength of shaft. Subgenital plates broadly rounded apically. Female 4·0–4·2 mm..... *linnavoorii* (Webb) (p. 247)
- 12 Styles sharply curved dorsally over apical one-quarter. Expanded apex of third valvulae with approximately two-thirds its length beyond pygophore (Fig. 119)..... *viridiclavus* (Webb) (p. 247)
- Styles evenly curved dorsally. Expanded apex of third valvulae with approximately half its length beyond pygophore *nigeriensis* (Webb) (p. 246)
- 13 Subgenital plates with long ventral marginal setae at midlength and apex of plates (absent subapically on plates) *ghanaensis* (Webb) (p. 247)
- Subgenital plates with long ventral marginal setae along entire distal half of plates
pilosus (Webb) (p. 247)

***Pretioscopus flavosignatus* (Webb) comb. n.**

(Fig. 116)

Idioscopus flavosignatus Webb, 1976: 302, figs 48–60. Holotype ♂, NIGERIA (BMNH) [examined].

MATERIAL EXAMINED

Nigeria: 2 ♂, 1 ♀ (type-series), SE. State, Oban Rest House (BMNH). **Cameroun:** 1 ♀ (paratype) Kumba (RL); 2 ♂, Victoria (CAS). **Angola:** 1 ♀ (paratype), 11 km W. Babela (BMNH).

***Pretioscopus longicornis* sp. n.**

(Figs 125–127)

Length: ♂, 4·0 mm.

Head and thorax yellow; forewing brownish hyaline tinged with orange; male antenna dark brown subapically.

Vertex finely and transversely striate.

Male genitalia with apices of Xth segment broad in lateral aspect, posterior margins produced as a broad lobe. Subgenital plates broadly rounded apically; a uniseriate row of long fine marginal setae distally. Aedeagal shaft elongate, a pair of elongate apical processes; gonopore apical on posterior surface, short.

MATERIAL EXAMINED

Holotype ♂, **Cameroun:** Nkoemvon, vii.1979 (*D. Jackson*) (BMNH).

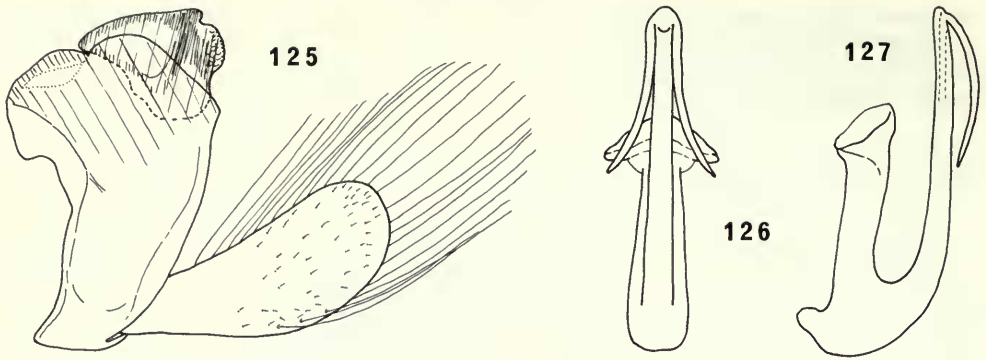
REMARKS. This species is similar to *flavocephala* and *caprilei* in lacking a pair of pronotal spots and having the vertex finely and transversely striate. It differs from these species by its longer aedeagal shaft and processes.

***Pretioscopus macrosetus* (Webb) comb. n.**

Idioscopus macrosetus Webb, 1976: 304, figs 61, 62. Holotype ♂, NIGERIA (BMNH) [examined].

MATERIAL EXAMINED

Nigeria: 1 ♂ (holotype), S.E. State, Ikom, C.R.I.N. (BMNH).



Figs 125–127 *Pretioscopus longicornis*. 125, male genital capsule; 126, 127, aedeagus.

***Pretioscopus caprilei* (Webb) comb. n.**

Idioscopus caprilei Webb, 1976: 304, figs 63–65. Holotype ♂, NIGERIA (BMNH) [examined].

MATERIAL EXAMINED

Nigeria: 2 ♂ (type-series), S.E. State, Ikom, C.R.I.N. (BMNH).

***Pretioscopus africanus* (Webb) comb. n.**

(Figs 114, 120)

Idioscopus africanus Webb, 1976: 306, figs 66–69. Holotype ♂, NIGERIA (BMNH) [examined].

MATERIAL EXAMINED

Liberia: 2 ♂, 4 ♀, Suakoka (USNM). **Nigeria:** 14 ♂, 7 ♀, M.W. State, Udo Forest Res.; 5 ♂, 3 ♀, M.W. State, Benin, Nigerian Oilpalm Res. Inst.; 8 ♂, 5 ♀, S.E. State, Obudu, C.R.; 8 ♂, 3 ♀, S.E. State, Ikom, C.R.I.N.; 7 ♂, S.E. State, Oban Rest House; 1 ♂, Ile-Ife (holotype and paratypes (in part)) (BMNH; RL; USNM). **Central African Republic:** 1 ♂, Bossangoa, Bossembele (paratype) (RL). **Cameroun:** 2 ♂ (paratypes (in part)), Kumba (RL); 6 ♂, 1 ♀, 1 ex., Victoria (Bota) (CAS). **Zaire:** 1 ♂, Ubangi, Nouvelle Anvers (paratype) (MRAC). **Angola:** 2 ♂, 3 ♀ (paratypes (in part)) (MD).

***Pretioscopus binotatus* (Webb) comb. n.**

Idioscopus binotatus Webb, 1976: 306, figs 70, 71. Holotype ♂, NIGERIA (BMNH) [examined].

MATERIAL EXAMINED

Nigeria: 5 ♂ (type-series), S.E. State, Oban Rest House (BMNH).

***Pretioscopus flavocephalus* (Webb) comb. n.**

Idioscopus flavocephalus Webb, 1976: 306, figs 72–75. Holotype ♂, NIGERIA (BMNH) [examined].

MATERIAL EXAMINED

Nigeria: 8 ♂, 11 ♀ (holotype and paratypes (in part)), W. State, Ile-Ife; 1 ♂, W. State, Ife; 1 ♂ (paratype), M.W. State, Benin, Nigerian Oilpalm Res. Inst. (BMNH; RL; USNM).

***Pretioscopus nigeriensis* (Webb) comb. n.**

Idioscopus nigeriensis Webb, 1976: 307, figs 76–82. Holotype ♂, NIGERIA (BMNH) [examined].

MATERIAL EXAMINED

Ivory Coast: 1 ♂, Adiopodoume (paratype) (MRAC). **Nigeria:** 12 ♂, 6 ♀, N.W. State, Udo Forest Res.; 3 ♂, 1 ♀, M.W. State, Benin, Nigerian Oilpalm Res. Inst.; 1 ♂, 2 ♀, S.E. State, Ikon, C.R.I.N.; 3 ♂, S.E. State, Oban Rest House; 6 ♂, 3 ♀, Ile-Ife; 1 ♀, W. State, Effon-Alaiye (holotype and paratypes (in part)) (BMNH; RL; USNM).

***Pretioscopus quadrimaculatus* (Webb) comb. n.**

(Fig. 121)

Idioscopus quadrimaculatus Webb, 1976: 309, figs 83, 84. Holotype ♂, ANGOLA (MD) [examined].

MATERIAL EXAMINED

Angola: 3 ♂, 1 ♀ (type-series) (MD; BMNH; RL).***Pretioscopus viridiclavus* (Webb) comb. n.**

(Figs 115, 119)

Idioscopus viridiclavus Webb, 1976: 309, figs 85–87. Holotype ♂, ZAIRE 'Congo Belge' (IRSNB) [examined].

MATERIAL EXAMINED

Zaire: Upemba Nat. Park: 2 ♂, 7 ♀ (holotype and paratypes (in part)), Munoi bif. Lupiala, 890 m; 3 ♂, 4 ♀, Kaswabilenga, 700 m; 6 ♂, (including paratype) 1 ♀, Riv. Lupiala, 700 m; 1 ♂ (paratype), 1 ♀, Georges de la Pelenge, 1150 m; 1 ♂, Kabwoes/Muye, 1320 m (all IRSNB; BMNH; RL).***Pretioscopus medleri* (Webb) comb. n.**

(Figs 117, 122)

Idioscopus medleri Webb, 1976: 311, figs 88–92. Holotype ♂, NIGERIA (BMNH) [examined].

MATERIAL EXAMINED

Nigeria: 7 ♂, 1 ♀, S.E. State, Oban Rest House; 3 ♂, 1 ♀, S.E. State, Ikom, C.R.I.N.; 1 ♂, M.W. State, Udo Forest Res. (all type-series) (BMNH); 1 ♂, W. State, Ile-Ife (USNM). **Cameroun:** 5 ♂, 3 ♀, Victoria (Bota) (CAS).***Pretioscopus linnavuorii* (Webb) comb. n.**

(Fig. 118)

Idioscopus linnavuorii Webb, 1976: 311, figs 93–97. Holotype ♂, NIGERIA (BMNH) [examined].

MATERIAL EXAMINED

Ivory Coast: 1 ♂ (paratype) Adiopodoumé (MRAC). **Nigeria:** 4 ♂, 3 ♀, W. State, Ile-Ife; 2 ♂, Udo Forest Res.; 1 ♂, 1 ♀, S.E. State, Oban Rest House; 1 ♂, 2 ♀ (holotype and paratypes (in part)), S.E. State, Ikom, C.R.I.N. (BMNH). **Cameroun:** 9 ♂, 4 ♀, Victoria (Bota) (CAS).***Pretioscopus ghanaensis* (Webb) comb. n.**

(Fig. 124)

Idioscopus ghanaensis Webb, 1976: 312, figs 98–110. Holotype ♂, GHANA (BMNH) [examined].

MATERIAL EXAMINED

Ghana: 1 ♂, 2 ♀ (type-series), E. Region, Accra, Legon (BMNH). **Zambia:** 1 ♂, Lusaka (BMNH).**REMARKS.** The specimen from Zambia has the position of the aedeagal processes as in *pilosus*. This character cannot therefore be used to separate the two species as was indicated in their original descriptions; they are tentatively regarded as distinct on the difference in setosity of the sub-genital plates (see key).***Pretioscopus pilosus* (Webb) comb. n.**

(Fig. 123)

Idioscopus pilosus Webb, 1976: 313, figs 111–118. Holotype ♂, ZIMBABWE (BMNH) [examined].

MATERIAL EXAMINED

Zimbabwe: 1 ♂ (holotype), Bulawayo (BMNH).

GROOTONIA gen. n.

Type-species: *Grootonia mella* sp. n.

Yellow, sordid yellow or stramineous. Vertex with a dark brown anterior spot near each eye. Pronotum with or without brown mottling. Scutellum with a pair of dark brown basal triangles. Forewings yellow to brownish hyaline, veins concolorous with wing or mainly brown.

Head 1.15 times as wide as pronotum, shagreened. Vertex 3.5–5.9 times as wide as medial length; slightly shorter medially than length next to eyes. Face 1.07–1.10 times as wide as long; eyes large, inner margin of eyes approximately equal in length to perpendicular length of face below eyes; interocular width 2.2 times ocellular width; laterofrontal sutures extended to corresponding ocellus, more or less straight; lora separated from facial margin throughout length; clypellus with sides concave, apex wider than base; rostrum extended to middle or hind coxae. Pronotum shagreened. Scutellum slightly shorter than combined length of pronotum and vertex, shagreened. Forewings with first subapical cell open, second closed, third present. Hind femur with apical setal formula 2+1. Hind tibia flattened, with 18–23 spines in row 1, six to eight spines in row 2 and eight to nine spines in row 3; distal spines of row 2 without a basal process.

Male dorsal and ventral basal abdominal apodemes lobe-like.

Male genitalia with Xth segment with anterior transverse region absent; lateral arms very broad in lateral aspect, solidly attached to pygophore anteriorly. Subgenital plates elongate, narrowly spatulate in lateral aspect, several long fine marginal setae distally. Connective Y-shaped with dorsomedial keel. Style with apical process elongate, curved dorsally, slightly expanded and tapered to apex in lateral aspect; preapical lobe ventral. Aedeagus with shaft elongate, cylindrical, directed dorsally and tapered to apex, a pair of subapical processes directed ventrally or laterally, sometimes with an additional pair of very small processes subapically; gonopore apical on posterior surface; basal apodeme short to moderately long.

Female genitalia with first valvulae transversely striate dorsolaterally. Second valvulae elongate, numerous very fine teeth over distal half of valvulae, anterior teeth elevated; sclerotized region basad of teeth situated at dorsal margin; dorsal hyaline region present.

DISTRIBUTION. Kenya, Botswana, South Africa.

REMARKS. This genus can be distinguished by the following combination of characters: the long laterofrontal sutures and the shape of the male Xth segment and female second valvulae, as noted above.

Key to the species of *Grootonia*

Females of *knighti* are unknown.

- | | | |
|---|--|-----------------------------------|
| 1 | Antennal pits marked with dark brown; veins of forewing mainly brown | 2 |
| – | Antennal pits not marked with brown; veins of forewing yellowish hyaline | <i>kenyaensis</i> (Webb) (p. 249) |
| 2 | Aedeagal processes short..... | <i>knighti</i> (Webb) (p. 249) |
| – | Aedeagal processes elongate, sometimes with an additional small pair of processes (Fig. 129) | <i>mella</i> sp. n. (p. 248) |

***Grootonia mella* sp. n.**

(Figs 128–131)

Length: ♂, 4.6 mm; ♀, 4.9 mm.

Pale yellow. Head with a brown spot on vertex near each eye; antennal pits dark brown, female with a medial brown patch on clypeus. Pronotum heavily mottled with brown. Scutellum with brown basal triangles. Veins of forewing brown with a whitish patch on cubital vein near midlength of wing and at junction of cubital vein and first apical cell.

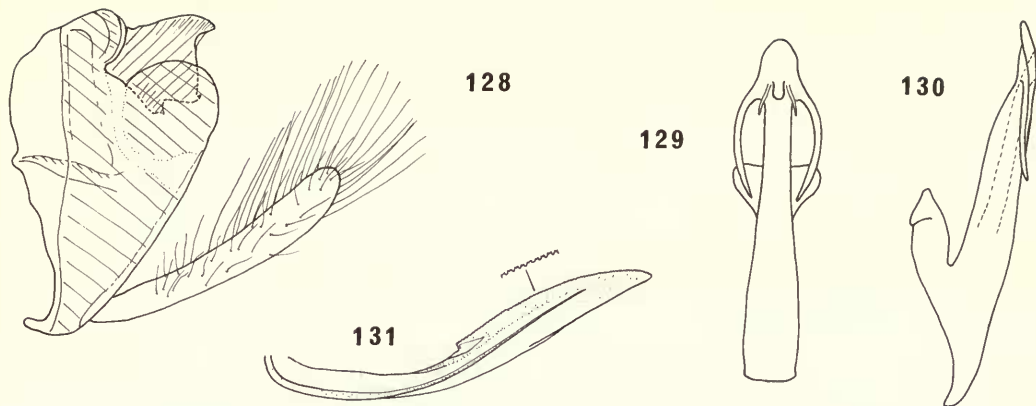
Male genitalia with socle region of aedeagus relatively narrow basally; aedeagal shaft with apex compressed anteroposteriorly, pair of elongate ventrally directed subapical processes, arising anterolaterally, sometimes a more posterior very small process arising near base of each elongate process; basal apodeme of aedeagus relatively short.

Female genitalia as in generic description.

MATERIAL EXAMINED

Holotype ♂, **South Africa**: Messina, xi.1971 (*H. D. Catling*) (US).

Paratypes. **South Africa**: 1 ♂, 1 ♀, Kurt Steyn Bridge, Olifants River, 13.i.1965 (*M. Hoffmann*)



Figs 128–131 *Grootonia mella*. 128, male genital capsule; 129, 130, aedeagus; 131, second valvulae.

(BMNH); 1 ♂, Malelane, 3–5.xii.1963 (*L. Vári*) (TM); 1 ♀, Nelspruit, 8.xi.1966 (*P. Paliatseas*) (NCI); 2 ♀, Dendron, Claudius Hoop, 22.ix.1965 (*M. Johannsmeier*) (NCI); 1 ♀, Pafuri, 17.i.1965 (*A. L. Capener*) (NCI).

REMARKS. This species can be distinguished by its brown markings and the shape of the aedeagus, as noted above.

***Grootonia knighti* (Webb) comb. n.**

Idioscopus knighti Webb, 1976: 320, figs 161–172. Holotype ♂, BOTSWANA (BMNH) [examined].

MATERIAL EXAMINED

Botswana: 4 ♂ (type-series), Kuke Pan, 20°59'S, 22°25'E (BMNH).

***Grootonia kenyaensis* (Webb) comb. n.**

Idioscopus kenyaensis Webb, 1976: 323, figs 173–183. Holotype ♂, KENYA (BMNH) [examined].

MATERIAL EXAMINED

Kenya: 1 ♂ (holotype), Chyulu Hills, 1680 m (BMNH); 1 ♂, Meru (BMNH).

CAFIXIA gen. n.

Type-species: *Idiocerus hewitti* Cogan.

Yellow; vertex with a dark brown anterior spot near each eye; scutellum with a pair of dark brown basal triangles.

Head 1.25 times as wide as pronotum. Vertex 3.7–4.7 times as wide as medial length; of uniform length or slightly longer medially than length next to eyes, finely transversely striate. Face 1.12 times as wide as long, shagreened below ocelli, finely transversely striate above ocelli; eyes large, inner margin of eyes 0.90 times perpendicular length of face below eyes; interocellar width 3.3 times ocellular width; laterofrontal sutures extended to point adjacent to inner margin of corresponding ocellus, more or less straight; lora separated from face throughout length; clypellus with sides concave, apex wider than base; rostrum extended to mid coxae. Pronotum finely transversely striate. Scutellum slightly shorter than combined length of pronotum and vertex, finely rugose, brown basal triangles shagreened. Forewings with first subapical cell open, second closed, third present. Hind femur with apical setal formula 2+1. Hind tibia flattened, with 14–18 spines in row 1, 6–7 spines in row 2 and 6–9 spines in row 3; distal spines of row 2 with a strong basal process.

Male dorsal and ventral basal abdominal apodemes lobe-like.

Male genitalia with Xth segment loosely attached to pygophore, lateral arms only slightly expanded posteriorly in lateral aspect. Subgenital plates narrowly spatulate in lateral aspect, few moderately long fine marginal setae distally. Connective Y-shaped with a dorsomedial keel. Style with apical process elongate, tapered to narrow upturned apex, ventral margin crenulate subapically; preapical lobe indistinct. Aedeagus with shaft elongate, cylindrical, curved dorsally and tapered to apex, a pair of subapical ventrally directed lateral processes, gonopore subapical on posterior surface; basal apodeme elongate.

Female genitalia with first valvulae transversely striate dorsolaterally. Second valvulae elongate, few prominent teeth distally; sclerotized region basad of teeth indistinct, dorsal hyaline region absent.

DISTRIBUTION. Angola, South Africa.

REMARKS. This genus can be distinguished by the following combination of characters: vertex and pronotum with fine transverse striations and the scutellum finely rugose.

Cafixia hewitti (Cogan) comb. n.

(Figs 132–135)

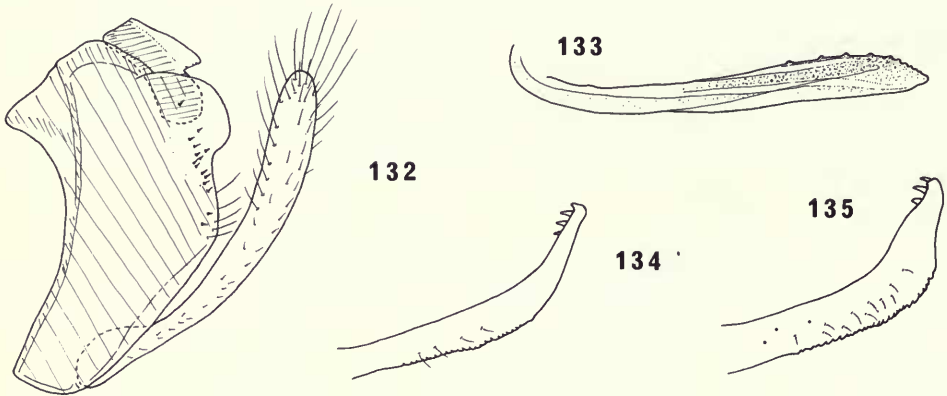
Idiocerus hewitti Cogan, 1916: 180, figs 3a–c. Holotype ♀, SOUTH AFRICA (AM) [examined].

Idioscopus hewitti (Cogan) Webb, 1976: 319, figs 149–160.

MATERIAL EXAMINED

Angola: 4 ♂, 3 ♀, Dolondolo, 13°49'S, 13°07'E; 1 ♀, Capangombe, 15°05'S, 13°10'E (all SM). **South Africa:** 1 ♂ (holotype), Grahamstown (AM), 1 ♂ Grahamstown (US); 1 ♀, Cathcart (US); 2 ♂, 1 ♀ Mkuzi (NCI); 1 ♂, Urnkomaas (RL); 3 ♂, 1 ♀, Port St John; 3 ♀, Weenen; 1 ♀, Katberg, 1200 m (all BMNH).

REMARKS. There is some variation in the style apex (Figs 134, 135).



Figs 132–135 *Cafixia hewitti*. 132, male genital capsule; 133, second valvulae; 134, apex of left style, South Africa, Urnkomaas; 135, same, Angola.

RHUSOPUS gen. n.

Type-species: *Idiocerus cuneiformis* Naudé.

Head and thorax yellow to sordid yellow, sometimes tinged with green; vertex with a dark brown anterior spot near to each eye; antennal pits dark brown; scutellum with a pair of dark brown basal triangles. Forewings yellow to brownish hyaline, veins concolorous with wing, whitish or yellow; a brown patch sometimes present at midlength of corium.

Head 1.25 times as wide as pronotum. Vertex 4.5–5.3 times as wide as medial length; of uniform length or slightly shorter medially than length next to eyes; finely and transversely striate. Face 1.25 times as wide as long, shagreened; eyes large, inner margin of eyes 0.90 times perpendicular length of face below eyes; interocellar width twice ocellular width; laterofrontal sutures extended one-quarter distance to corresponding ocellus, more or less straight; lora separated from facial margin throughout length; clypellus with sides concave, apex wider than base; rostrum extended to near hind coxae. Pronotum shagreened. Scutellum slightly shorter than combined length of pronotum and vertex, shagreened. Forewings with first subapical cell open, second closed, third present. Hind femur with apical setal formula 2+1. Hind tibia flattened, with 10–12 spines in row 1, five spines in row 2 and four spines in row 3; distal spines of row 2 with a weak basal process.

Male dorsal and ventral basal abdominal apodemes lobe-like.

Male genitalia with Xth segment fused to pygophore anteriorly, lateral arms narrow throughout length in lateral aspect, with an internal marginal ledge. Subgenital plates narrowly spatulate in lateral aspect,

several long fine marginal setae dorsally and apically and a few moderately long spine-like setae ventrally. Connective Y-shaped with a dorsomedial keel. Style with apical process elongate, apex upturned foot-like, ventral heel serrate; preapical lobe lateral with a few short fine setae on medial surface. Aedeagus with shaft short to long, cylindrical, directed dorsally, a pair of short to long ventrally directed subapical processes and sometimes an additional pair of very small or triangular subapical processes; basal apodeme elongate.

Female genitalia with first valvulae transversely striate dorsolaterally. Second valvulae moderately long and narrow, several prominent teeth distally, sometimes anterior teeth elevated; sclerotized region basad of teeth situated at dorsal margin; dorsal hyaline region present.

DISTRIBUTION. South Africa, South West Africa.

REMARKS. This genus can be distinguished by the following combination of characters: vertex with fine transverse striations, pronotum shagreened, and the male Xth segment fused to the pygophore anteriorly. *Rhusopus cuneiformis* and *R. aliwalensis* have been collected on species of *Rhus* in South Africa.

Key to the species of *Rhusopus*

1	Male	2
–	Female	6
2	Aedeagal processes long (Fig. 137)	3
–	Aedeagal processes short	4
3	Aedeagus with gonopore large, situated near base of shaft (Fig. 141)	<i>hardua</i> sp. n. (p. 252)
–	Aedeagus with gonopore moderately large, situated at approximately midlength of shaft (Fig. 138)	<i>gonubiensis</i> sp. n. (p. 252)
4	Aedeagus with one pair of processes	<i>cuneiformis</i> (Naudé) (p. 251)
–	Aedeagus with two pairs of processes, the more dorsal pair very small and narrow or triangular	5
5	Aedeagus with more dorsal pair of processes triangular	<i>aliwalensis</i> (Webb) (p. 251)
–	Aedeagus with more dorsal pair of processes very small and narrow, not triangular	<i>turneri</i> (Webb) (p. 252)
6	Second valvulae with sclerotized region at dorsal margin very long (Fig. 145)	<i>aliwalensis</i> (Webb) (p. 251)
–	Second valvulae not as above	7
7	Second valvulae with sclerotized region at dorsal margin very broad (Fig. 143)	<i>turneri</i> (Webb) (p. 252)
–	Second valvulae not as above	8
8	Second valvulae with more anterior teeth elevated (Fig. 144)	9
–	Second valvulae not as above (Fig. 142)	<i>hardua</i> sp. n. (p. 252)
9	Second valvulae broad apically (Fig. 144)	<i>cuneiformis</i> Naudé (p. 251)
–	Second valvulae moderately broad apically (Fig. 139)	<i>gonubiensis</i> sp. n. (p. 252)

Rhusopus cuneiformis (Naudé) comb. n.

(Fig. 144)

Idiocerus cuneiformis Naudé, 1926: 16. Holotype ♀, SOUTH AFRICA (PPRI) [examined].

Idioscopus cuneiformis (Naudé) Theron, 1976: 259, figs 84–95.

MATERIAL EXAMINED

Numerous examples from **South Africa**: Cape Town; Ceres (including holotype ♀); Fonteine; Katberg; Mossel Bay; Muldersvlei; Swellendam; Winburg (BMNH; PPRI).

REMARKS. This species has been recorded by Theron (1976) on *Rhus macowanii* from Ceres, on *R. laevigata* from Muldersvlei and on *Rhus* sp. from Tulbagh, Stellenbosch, Heidelberg (Tul) and Hammarsdale.

Rhusopus aliwalensis (Webb) comb. n.

(Fig. 145)

Idioscopus aliwalensis Webb, 1976: 314, figs 119–131. Holotype ♂, SOUTH AFRICA (BMNH) [examined].

MATERIAL EXAMINED

Numerous examples from **South Africa**: Aliwal North (type-series); Elandshoek; Fontein Dal Pta; H. Verwoerd Dam Site; Potchefstroom and Roodeplaat (BMNH; US; NCI; PPRI).

REMARKS. This species has been collected on *Rhus pyroides* and *Rhus* sp. at Potchefstroom.

***Rhusopus turneri* (Webb) comb. n.**

(Fig. 143)

Idioscopus turneri Webb, 1976: 316, figs 132–135. Holotype ♂, SOUTH AFRICA (BMNH) [examined].

MATERIAL EXAMINED

South Africa: 1 ♂, 1 ♀ (type-series), Port St John (BMNH).

***Rhusopus gonubiensis* sp. n.**

(Figs 136–139)

Length: ♂, 3.4–3.6 mm, mean 3.5 mm; ♀, 3.7–4.1 mm, mean 3.9 mm.

Colour as in generic description.

Male genitalia with aedeagal shaft relatively short and broad, a pair of moderately long processes subapically; gonopore moderately large, situated near midlength of shaft.

Female genitalia with second valvulae with sclerotized region at dorsal margin moderately long; teeth over distal one-third of valvulae, anterior teeth elevated.

MATERIAL EXAMINED

Holotype ♂, **South Africa**: East London, Gonubie, xii.1974 (*J. G. Theron*) (US).

Paratypes. **South Africa**: 21 ♂, 16 ♀, same data as holotype (US; BMNH); 2 ♂, Elandshoek, 27.xi.1968 (*A. L. Capener*); 1 ♂, 1 ♀, Port Elizabeth, 4.i.1975 (*J. G. Theron*) (all US); 1 ♂, Nelspruit, 10.ii.1966 (*P. Paliatseas*); 1 ♂, Pretoria, 31.i.1965 (*M. Hoffman*) (both NCP).

REMARKS. This species is closely related to *hardua* from which it differs in having the aedeagal processes shorter and the gonopore smaller and situated more dorsally. Both are generally smaller than other members of the genus and have long rather than short aedeagal processes. The second valvulae of *gonubiensis* resemble those of *cuneiformis* but are narrower apically. Several males examined have the genitalia poorly developed; the aedeagus is similar to that of *hardua* but the size and position of the gonoduct identify them as *gonubiensis*.

***Rhusopus hardua* sp. n.**

(Figs 140–142)

Length: ♂, 3.7; ♀, 3.8–4.1 mm, mean 3.9 mm.

Colour as in generic description.

Male genitalia as in *gonubiensis* but aedeagus with processes longer and gonopore larger and situated near base of shaft.

Female genitalia with second valvulae similar to *gonubiensis* but more anterior teeth not elevated.

MATERIAL EXAMINED

Holotype ♂, **South West Africa**: Windhoek, D. Viljoen Park, 4–8.vii.1974 (*J. G. Theron*) (US).

Paratypes. **South West Africa**: 9 ♂, 9 ♀, same data as holotype (US; BMNH).

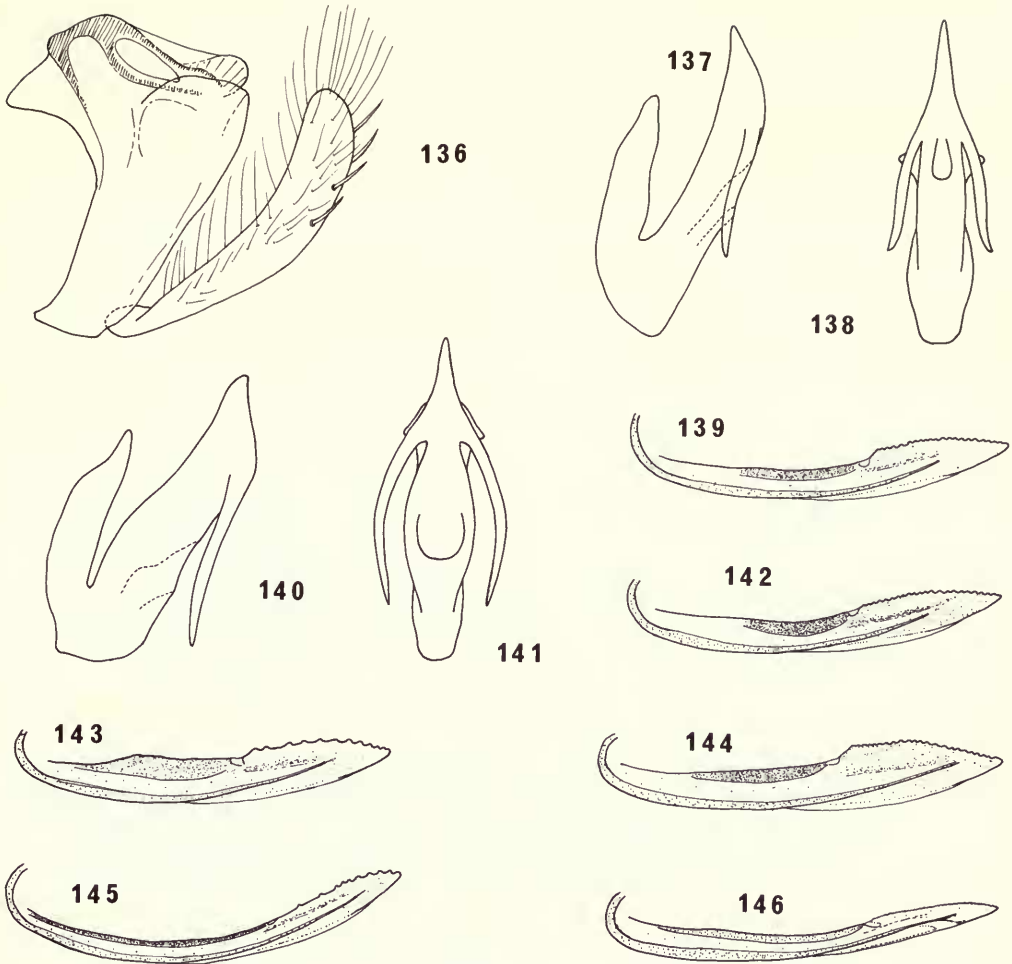
REMARKS. This species is closely related to *gonubiensis* but differs slightly in the shape of the aedeagus and second valvulae as noted above.

QUARTAUROPA gen. n.

Type-species: *Idioscopus nigrocellus* Webb.

Yellow to stramineous. Scutellum with a pair of dark brown basal triangles.

Head 1.12 times as wide as pronotum, shagreened. Vertex 4.27 times as wide as long; of uniform length. Face 1.15 times as wide as long; eyes small, inner margin of eyes 0.62 times perpendicular length of face below eyes; interocellar width twice ocellular width; laterofrontal sutures indistinct; clypellus with sides



Figs 136–145 *Rhusopus* species. 136–139, *R. gonubiensis*. (136) male genital capsule; (137, 138) aedeagus; (139) second valvulae. 140–142, *R. hardua*. (140, 141) aedeagus; (142) second valvulae. 143, *R. turneri*, second valvulae. 144, *R. cuneiformis*, second valvulae. 145, *R. aliwalensis*, second valvulae. Fig. 146 *Quartauropa nigrocellus*, second valvulae.

concave, apex wider than base; lora separated from facial margin throughout length; rostrum extended to near hind coxae. Pronotum shagreened. Scutellum slightly longer than pronotum, rugose with brown basal triangles shagreened. Forewings with first and second subapical cells closed, third absent. Hind femur with apical setal formula 2+1. Hind tibia flattened, with 13 spines in row 1, seven to eight spines in row 2 and seven spines in row 3; distal spines of row 2 with a weak basal process.

Male abdomen with basal apodemes reduced dorsally, lobe-like ventrally.

Male genitalia with Xth segment with anterior transverse region absent, lateral arms narrow, solidly attached to pygophore anteriorly. Subgenital plates very long and narrow, several long fine marginal setae apically and ventrally. Connective Y-shaped, with a dorsomedial keel. Style with apical process elongate, apex upturned foot-like; preapical lobe lateral. Aedeagus with shaft relatively short, curved dorsally, tapered to apex, laterally compressed, gonopore subapical on posterior surface; basal apodeme short.

Female genitalia with first valvulae transversely striate dorsolaterally. Second valvulae elongate, numerous very fine teeth extended over distal one-third of valvulae; sclerotized region basad of teeth situated at dorsal margin; dorsal hyaline region present.

DISTRIBUTION. Angola.

REMARKS. This genus can be distinguished by the following combination of characters: eyes small; laterofrontal sutures indistinct; first subapical cell of the forewing closed; scutellum finely rugose and subgenital plates without dorsal marginal setae except at extreme apex.

***Quartauropa nigrocella* (Webb) comb. n.**

(Fig. 146)

Idioscopus nigrocellus Webb, 1976: 330, figs 222–234. Holotype ♂, ANGOLA (BMNH) [examined].

MATERIAL EXAMINED

Angola: 3 ♂, 2 ♀ (type-series), Tumdaula (BMNH).

REMOYA gen. n.

Type-species: *Idioscopus aldabraensis* Webb.

Yellow; scutellum with a pair of brown basal triangles.

Head 1.14 times as wide as pronotum. Vertex 4.5 times as wide as medial length; medial length equal to or longer than length next to eyes; finely and transversely striate. Face approximately equal in width to length, shagreened; eyes large, inner margin of eyes 1.10 times perpendicular length of face below eyes; interocellar width 3.5 times ocellular width; laterofrontal sutures extended approximately one-third length to corresponding ocellus, more or less straight; lora separated from facial margin throughout length; clypellus with sides concave, apex wider than base; rostrum extended to hind coxae. Pronotum shagreened. Scutellum slightly shorter than combined length of pronotum and vertex, shagreened. Fore wings with first and second subapical cell open, third subapical cell absent. Hind femur with apical setal formula 2+1; hind tibia flattened, with 13–16 spines in row 1, six to seven spines in row 2 and four spines in row 3, distal spines of row 2 without a basal process.

Male dorsal and ventral basal abdominal apodemes lobe-like.

Male genitalia with Xth segment solidly attached to pygophore, lateral arms narrow, not extended ventrally. Subgenital plates elongate, of similar width throughout length; few moderately long fine marginal setae dorsally and few long stouter marginal setae apically and ventrally. Connective Y-shaped with dorsomedial keel. Styles with apical process elongate, apex upturned foot-like; preapical lobe lateral, several short fine setae laterally. Aedeagus relatively small, shaft elongate, cylindrical, curved dorsally and tapered to apex, pair of basal dorsally directed processes arising from anterior margin; basal apodeme elongate.

Female genitalia with first valvulae transversely striate dorsolaterally. Second valvulae moderately long and narrow, several prominent teeth over distal half of valvulae; sclerotized region basad of processes situated at dorsal margin, short; dorsal hyaline region absent.

DISTRIBUTION. Aldabra.

REMARKS. This genus can be distinguished by the following combination of characters: vertex finely and transversely striate, face long, second subapical cell of the forewing open, setosity of the subgenital plates as noted above and the aedeagus with a pair of basal processes.

***Remoya aldabraensis* (Webb) comb. n.**

Idioscopus aldabraensis Webb, 1976: 318, figs 136–148. Holotype ♂, ALDABRA (BMNH) [examined].

MATERIAL EXAMINED

Aldabra. South Island: 44 ♂, 29 ♀, Anse Cedre; 1 ♂, 1 ♀, Frigate Pool; 21 ♂, 16 ♀, Takamaka Grove; 4 ♀, Takamaka Pool; 2 ♂, 3 ♀, Takamaka (all type-series) (BMNH; USNM; PPRI; NM).

Nomen dubium

***Idiocerus funereus* Melichar**

Idiocerus funereus Melichar, 1911: 111; 1922: 303, figs 1, 2. Type [sex unknown], 'British East Africa' (lost).

REMARKS. The type of this species could not be found in any of Melichar's collections and is presumed lost. Although a colour description and figures are given by Melichar, I have been

unable to match a specimen to them. Important features are the absence of a brown spot near to each eye on the vertex and the pale transverse band on the face. The generic and specific identity of this species remains uncertain.

References

- Ahmed, M., Ahmed, M., Baluch, M. A. & Naheed, R. 1981. Sooty mold on mango plants and its relationship with leafhoppers and climatic factors in Karachi–Pakistan during 1978–79. *Pakistan Journal of Scientific and Industrial Research* **24**: 140–144.
- Baker, C. F. 1915. Studies in Philippine Jassoidea, IV: the Idiocerini of the Philippines. *Philippine Journal of Science* **10**: 317–343.
- China, W. E. 1926. A new genus of Bythoscopidae (Jassoidea, Homoptera). *Annals and Magazine of Natural History* **17**: 671–673.
- Cogan, E. S. 1916. Homopterous Studies. Part I. Contributions towards our knowledge of the Homoptera of Africa. *Ohio Journal of Science* **16**: 161–208.
- Distant, W. L. 1908. *The fauna of British India including Ceylon and Burma*. Rhynchota 4. Homoptera and appendix (Pt) xv+501 pp. London.
- Evans, J. W. 1934. A revision of the Ipoinae (Homoptera, Eurymelidae). *Transactions of the Royal Society of South Australia* **58**: 149–167.
- Freytag, P. H. & Knight, W. J. 1966. The Idiocerinae of Madagascar (Hom. Cicadellidae). *Annales de la Société Entomologique de France* (N.S.) **2**: 75–103.
- Hamilton, K. G. A. 1980. Review of the Nearctic Idiocerini, excepting those from the Sonoran subregion (Rhynchota: Homoptera: Cicadellidae). *Canadian Entomologist* **112**: 811–848.
- Heller, F. & Linnavuori, R. 1968. Cicadelliden aus Äthiopien. *Stuttgarter Beiträge zur Naturkunde aus dem Staatlichen Museum* no. 186: 1–42.
- Le Quesne, W. J. 1965. Hemiptera Cicadomorpha. *Handbooks for the identification of British Insects* **2** (2a): 1–64.
- Linnavuori, R. 1961. Results of the Lund University Expedition in 1950–1951. X. Hemiptera (Homoptera); Cicadellidae. *South African Animal Life* **8**: 452–486.
- Maldonado Capriles, J. 1971. Studies on Idiocerine leafhoppers: VII. Concerning the Ethiopian genus *Rotifunkia* China 1926 (Hom. Cicadellidae). *Suomen Hyönteistieteellinen Aikakauskirja* **37**: 202–204.
- 1977. Studies on Idiocerinae leafhoppers XV. *Busonina* Distant and an allied new genus from the Oriental Region (Cicadellidae: Idiocerinae). *Pacific Insects* **17** (4): 491–501.
- Merr, F. A. 1981. Mozaiekvirus, heksenbezem en knobbelziekte bij populier, en een virusachtige groeiremming bij wilg. *Populier* **18** (3): 51–59.
- Melichar, L. 1908a. Eine neue Idioceruserart (Homopt.) aus Deutsch-Ostafrika. *Wiener Entomologische Zeitung* **27**: 65–66.
- 1908b. Nové rody a druhy Homopter z východni Afriky. *Časopis České Společnosti Entomologické* **5**: 1–15.
- 1911. Collections recueillies par M. M. de Rothschild dans l'Afrique Orientale. Homoptères. *Bulletin du Muséum National d'Histoire Naturelle* **17**: 106–117.
- 1914. Homopterorum nova genera et species novae Aethiopicae. *Časopis České Společnosti Entomologické* **11**: 1–8.
- 1922. Hémiptères Homoptères. In Rothschild, M. de, *Voyage de M. le Baron Maurice de Rothschild en Éthiopie et en Afrique Orientale Anglaise (1904–1905)* pp. 294–317. Paris.
- Naudé, T. J. 1926. Cicadellidae of South Africa, a taxonomic and faunistic study. *Entomology Memoirs. Department of Agriculture, Union of South Africa* **4**: 1–106.
- Ossiannilsson, F. 1981. The Auchenorrhyncha (Homoptera) of Fennoscandia and Denmark. Part 2: The Subfamilies Cicadidae, Cercopidae, Membracidae and Cicadellidae (excl. Deltocephalinae). *Fauna entomologica Scandinavica* **7**: 223–593.
- Viraktamath, C. A. 1973. A new species of Idiocerinae (Cicadellidae: Homoptera) on *Semecarpus anacardium* L. *Oriental Insects* **7**: 133–135.
- 1976. Four new species of idiocerine leafhoppers from India with a note on male *Balocha astuta* (Melichar) (Homoptera: Cicadellidae: Idiocerinae). *Mysore Journal of Agricultural Sciences* **10**: 234–244.
- Webb, M. D. 1975. A review of the genus *Idiocerus* Lewis (Homoptera: Cicadellidae) in the Ethiopian region, with description of eight new species. *Journal of the Entomological Society of Southern Africa* **38**: 165–184.
- 1976. A review of the genus *Idioscopus* Baker (Homoptera: Cicadellidae) in the Ethiopian region,

with descriptions of twenty-seven new species and a comparison with the genus *Idiocerus* Lewis, sensu Ribaut (1952). *Journal of the Entomological Society of Southern Africa* **39**: 291–331.

— 1980. The Cicadellidae from Aldabra, Astove and Cosmoledo Atolls collected by the Royal Society Expedition 1967–68 (Hemiptera, Homoptera). *Journal of Natural History* **14**: 829–863.

— 1983. Revision of the Australian Idiocerinae (Hemiptera: Homoptera: Cicadellidae). *Australian Journal of Zoology* (in press).

Index

Invalid names are in *italics*; references to descriptions are in **bold**.

- aethiopicus (Webb) 218, 241, **242**
 aethiopicus (Heller & Linnavuori) 218, 232, **240**
 africana 237
 africanus 218, 244, **246**
 Agalliinae 219
 agallioides 218, 224, **225**
 alargus 218, 233, **236**
 aldabraensis 218, **254**
 aliwalensis 218, **251**, 253
 angulatus 218, 232, **233**, 234
- bicornis 218, 232, 233, **237**, 238
 bifidus 218, 233, 234, **235**
 bifurcata 218, 221, 222, **223**
 binotatus 218, 245, **246**
- caffra 212, 214
 Cafixia 216, 217, 218, 220, **249**
 Candulifera 214, 219, 225
 capeneri 218, 241, **242**
 caprilei 218, 245, **246**
 Chunra 212, 213, 214, 216, 217, 218, 219, **225**, 227
 citrinus 218, 233, **237**
 Colophospermum 237, 238, 239
 Commiphora 237
 couleanus 214
 cuneiformis 218, **251**, 253
- dentata 218, 221, **222**
 Diospyros 239
 divergens 218, 221, 222, **223**
 doarna 218, 225, **226**, 227
- Eurymelinae 219, 224
exus 218, 221
- flavicostus 218, **241**
 flavocephalus 218, 245, **246**
 flavosignatus 218, 243, 244, **245**
 foliolosum 221
 funereus 219, **254**
- ghanaensis 218, 243, 244, 245, **247**
 gonubiensis 218, 251, **252**, 253
 Grootonia 216, 217, 218, 220, **248**
 guttifera 218, 224, **225**
- Haplocoelum 221
 hardua 218, 251, **252**, 253
 harpago 218, 232, **233**, 234, 235
 Hatralixia 219
 haupti 212, 214, 218, 220, **221**, 222
 Hensleyella 214, 215, 216, 217, 218, 219, **220**, 227
 hewitti 218, **250**
- Idiocerus 212, 213, 214, 219, 254
 Idioscopus 212
 ipoa 218, **227**
- kenyaensis 218, 248, **249**
 knighti 218, 248, **249**
 Kopamerra 212, 214, 216, 217, 218, **220**
- laevigata 251
 linnavuorii 218, 244, 245, 247
 lobatus 219, 232, 233, 236, **237**
 longicornis 218, **245**, 246
 loratus 219, 232, 233, **239**
- macowanii 251
 Macropsinae 219
 macrosetus 218, 244, **245**
 Maldonadora 216, 217, 218, 220, **227**
 medleri 218, 244, 245, **247**
 mella 218, **248**
 mespiliformis 239
 mimicus 219, 232, 233, **240**
 Mimusops 231
 mopanei 219, 232, 233, **238**, 239
 mtitoensis 219, 232, 233, **238**, 239
- nigeriensis 218, 245, **246**
 nigrocella 218, 253, **254**
- ohopohoensis 219, 232, 233, **240**
 olandea 218, 225, **226**, 227
- Pandacerus 213, 214, 216, 217, 218, 220, **240**
 Paropia 225
 pilosus 218, 244, 245, 247
 populi 213
 Pretioscopus 213, 214, 216, 217, 218, 220, **243**
 productus 212

- projecta* 213, 219, **221**
puncticosta 225
pyroides 252

quadrimaculatus 218, 244, 245, **247**
quadriocellatus 219, 232, 233, **237**
Quartauropa 214, 216, 217, 218, 220, **252**

Remoya 216, 217, 218, 220, **254**
Rhus 251
Rhusopus 216, 217, 218, 220, **250**
rixia 218, 227, **228**
robustus 219, 232, 233, **239**
Rotifunkia 214, 216, 217, 218, 220, 221, **224**

scotti 218, **241**, 242
serratus 219, 232, 233, 234, **235**
sinuatus 218, **241**, 242
sparsa 218, 221, **233**
spicatus 219, 232, 233, **239**
stalli 213
Strongylomma 212, 214

Sulamicerus 213, 214

Taeniocerus 214
tanzaniaensis 219, 233, **235**, 236
Theronopus 214, 216, 217, 218, 219, 220,
232, 233
torana 219, **221**
truncata 218, 221, **224**
tsavoensis 219, 232, 233, **234**
Tumocerus 219
turneri 218, 251, **252**, 253

ustulatus 214

villa 218, 225, **226**, 227
Viridicerus 214
viridiclavus 218, 244, 245, **247**
vittifrons 212

Yachandra 213, 214, 216, 217, 219, 220, **230**

zeyheri 231